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AN OUTLINE OF THE STRUCTURE OF SHILḤA

by

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PREFACE

Shilḥa, which is spoken in southwest Morocco, is one of the most widely distributed of the Berber languages. The dialect described in this work is found in the area extending from Agadir to Ifni and as far east as Taroudant. Shilḥa is still the predominant language in rural areas, though Arabic has replaced it in the towns. The presence of Arabic has influenced the dialect, as can be seen from the large number of Arabic loan-words, and also from the fact that there are two methods of counting, one using native Shilḥa words and the other using Arabic words. The Shilḥa numerals are used generally by women and occasionally by men in the rural areas, while Arabic numerals are used almost exclusively by men in business transactions. Traces of Spanish and French influence can also be found; the names of the months, for example, are obviously borrowed from Spanish.

The purpose of this work is to provide a general description of the structure of the language by examining the phonology, i.e., the sound-types and their relative distribution; the morphology, i.e., the major form-classes; and the syntax, i.e., the relative distribution of the form-classes. The description is intended to serve as a general outline of the structure rather than as a minutely detailed grammar. Sample texts and a vocabulary are included. Recordings of the texts are permanently deposited with the Linguistics Department of the University of Pennsylvania.

The author's principal informant was Mr. Madani ben Embarek, a native of Ifni, and the analysis presented herein is based chiefly on his speech. Additional material was furnished by Mr. Embarek's brother, Mr. Houssein ben Embarek al Bouchenne. Supplementary evidence to support some of the conclusions reached in the analysis was found in conversations with Mr. Embarek and his brother, as well as with certain of their friends. The author gratefully acknowledges his indebtedness to these gentlemen, without whose cooperation the study would have been impossible.

The author was aided in carrying out the basic research by a number of grants provided by the American Council of Learned Societies through its Program in Oriental Languages;

it is under the auspices of this organization, also, that the work is being published. Grateful acknowledgment is made for this assistance. The author also wishes to express his gratitude to Professor Zellig S. Harris, of the University of Pennsylvania, who supervised the research; to Dr. Henry Hoenigswald and Dr. Leigh Lisker, who gave many helpful suggestions; and to Dr. Carleton Coon, who provided some of the books mentioned in the bibliography.

J. R. A.

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CHAPTER I

PHONOLOGY

1.0 Introduction

The phonemes to be discussed in this section are: /t k b d g f s š z ž x g ḥ h ' m n l r i a u * : + - ↓ ↑/.[1] In addition to these phonemes, the element # (see 1.6) is included in this section because of its influence on certain phonological processes.

1.1 Consonants

1.11 /t/ includes the following sound types:

[t^h] released and slightly aspirated occurs in the environments /+tV/, /+t-V/, and /t+/. An example of this is found in the word [t^hibḥært^h] 'garden'.

[t], released but unaspirated, occurs in /VtV/, /CtV/, /tC/, /VtC/, and /CtC/, e.g., [ætbir] 'pigeon', [ætʊrdin] 'back', [its] 'sleep'. It should be noted that the consonant in the last three environments may not be a nasal.[2]

[t], unreleased, occurs before nasals: e.g., [ṇt'ṇti] 'they'. This allophone may also occur as an alternant of [t] before other consonants in long sequences of rapid speech.

[ṭ], domal or emphatic, occurs with /*/. When it occurs before /*+/, it is unreleased. In other environments, however, it is released. This is the only allophone of /t/ that may occur in the environments /t*/ or /tVC*/.

[t^h], a fortis allophone, occurs with /:/ in /t:/, /tC:/, or /tV:/. When the sequence is /V~Ct:+/, the aspiration is increased.[3]

1.12 /k/ includes the following sound types:

[k^h], released and slightly aspirated, occurs initially before /a/ and before /+/, e.g., [k^hænun] 'fireplace'.

[k], released but unaspirated, occurs in /Vka/.

[k^y] is slightly aspirated and palatalized. It occurs before /i/, e.g., [k^yimi] 'you'.

---

[1]The methods used in phonemic analysis are those described in Z. S. Harris's Methods in Structural Linguistics, pages 25-125. Certain typographical conventions are followed. Phonemes and phonemic transcriptions are placed between diagonal lines / /; allophones and phonetic transcriptions are enclosed in square brackets [ ]; the symbol ~ means "or". V = any vowel; C = any consonant. Translations are enclosed in single quotation marks.

[2]For additional data on consonantal release, see Appendix to Chap. I.

[3]Additional data is found in section 1.24 and the Appendix to Chap. I.

[k^w] differs from the preceding allophones because of the labialized release. It occurs before /u/. It may vary freely, however, with [k^h] and [k].

[$\underset{\cdot}{k}$], emphatic, occurs with /*/. When it occurs before /u/, there may be a labialized release.[1]

1.13 /b/ has few allophones. In borrowed words it occurs as a substitute for an original [p], e.g., /babor/ from Spanish vapor 'ship'.

[b] voiced, bilabial, released stop occurs before vowels and voiced consonants. Before /+/ it may occur unreleased, e.g., [kədub] 'lies'.

[b_{vl}], partially voiceless, occurs before voiceless consonants, e.g., [idub$_{vl}$t^h] 'it melted'. It also occurs in /sbV/.

[$\underset{\cdot}{b}$] occurs in the same environments as those given for the other fortis consonants.

1.14 /d/, like /b/, has few allophones.

[d], released, occurs before vowels and voiced consonants. Before /+/ it occurs as a free variant of [d^1]. It should be noted that it does not occur before nasals.

[d^1], unreleased, occurs before nasals and before /+/. In the latter position it may vary with [d].

[$\underset{\cdot}{d}$], domal, emphatic, occurs with /*/ or in /dV*/ or /dVC*/.

[$\underset{\cdot}{d}$] occurs with /:/ in the same environments as those given for other fortis consonants.

1.15 /g/ does not occur frequently.

[g], released, occurs before vowels, consonants, or /+/.

[g^w] has a slightly labialized release. It occurs before /u/, but it seems to vary freely with [g] in this position.

[$\underset{\cdot}{g}$] the occurrence of this allophone is limited by the same conditions as those that limit the occurrence of other fortis consonants.

1.16 /f/. There are few restrictions on the occurrence of this phoneme. It occurs before vowels as well as before voiceless consonants. It does not occur before voiced consonants without the introduction of [^{ə}] (1.72) or /-/ (1.42). In /flV/ or /frV/, it may occur as [f^ə], or there may be a transposition of the vowel so that /i-frah/ 'he enjoyed' often occurs as /i-farh/.

[1]The description of the vocalic allophones (1.2) makes it possible to simplify the description of consonants with palatalized or labialized release. Because these allophones occur only before /i/ or /u/ respectively, and because /i/ and /u/ are known to consist of two components: vocalic and semi-consonantal, sequences in which the palatalized or labialized release occurs can be treated as sequences of /Ci/ or /Cu/.

1.17 /s/ includes the following sound types:

[s̱] occurs with /:/ as do the fortis consonants already described.

[ṣ], like the sounds [ṭ ḍ ḳ] occurs with /*/ in the environments described for other emphatic consonants.

[s] is heard in environments other than those described above. It should be noted that when it occurs before a voiced consonant there is usually the introduction of [ᵊ] or /-/.

1.18 /š/ seems to occur freely and with few restrictions that can be described here. It should be noted that like /s/ it occurs before voiced consonants with the introduction of [ᵊ]. A fortis variant occurs in the environments given for other consonants of this type.

1.19 /z/ occurs freely.

[ẓ], domal, emphatic occurs with /*/ and in the environments described for the other emphatic consonants.

[z] occurs with /:/.

1.110 /ž/. There are few restrictions on the occurrence of this phoneme. A variant, [ǯ], occurs initially, and frequently in /nž+/.

1.111 /x/, a voiceless, palato-velar spirant, has the following positional variants:

[x^{y}] with slightly palatalized release occurs before /i/.

[x^{w}] occurs before /u/. The labial release is not so clear as in [k^{w}] or [g^{w}]. Often the release is not detectable, so that this sound appears to vary freely with [x].

[x] occurs before consonants (except voiced stops), before vowels, and before /+/.

[x̱] occurs with /:/.

1.112 /ɣ/ is a voiced palato-velar spirant.

[ɣ^{y}], slightly palatalized, occurs before /i/.

[ɣ^{w}] occurs before /u/. As in the case of [x^{w}], the labialized release may be dropped, so that the sound is heard simply as [ɣ].

[ɣ] occurs in all environments except those just described.

1.113 /ḥ/ does not occur frequently. It is found before vowels. When it occurs after /+/, it is preceded by [ᵊ].

1.114 /ḫ/, a voiceless palato-velar spirant, occurs with few restrictions. When it occurs before consonants, there is a vocalic release similar to [ᵊ] but differing slightly because it is whispered.

1.115 /ʿ/, a voiced pharyngeal spirant, apparently occurs only when preceded or followed by a vowel, i.e., in /+ʿV/, /VʿV/, /CʿV/, /VʿC/, and /Vʿ+/.

1.116 /m/ includes the following sound types:

[m] as a bilabial nasal occurs before vowels or before /+/ after a vowel or in /VmC/ (provided the consonant that follows is not a stop).

[m̩], syllabic, occurs in /+mC/ or /Cm+/.

[m$^{\gamma}$], unreleased occurs before stops.

[m$^{\vartheta}$] occurs as a variant of [m̩] in /+mC/ or as a variant of /m/.

1.117 /n/ as a dental nasal occurs in /+nV/, /VnV/, /VnC/ (except where C = /k/ or /g/), /Vn+/ and /rn+/.

[n̪], syllabic, occurs in /+nC/, /Cn+/ and /CnC/: e.g., [n̪ta] 'he', [n̪t$^{\gamma}$n̪ti] 'they'.

[n$^{\vartheta}$] with a short vocalic release occurs as a variant of [n̪] in /+nC/: e.g., [n̪t$^{\gamma}$n̪ti] may occur as [n$^{\vartheta}$t$^{\gamma}$n̪ti]

[ŋ] occurs before /k/ or /g/: e.g., [iŋkɾ] 'he arose'.

1.118 /l/ occurs when preceded or followed by a vowel.

[l̩] syllabic occurs in /+lC/ or /Cl+/.

[l$^{\vartheta}$] with a short vocalic release alternates with [l̩].

[l̠], slightly backed, occurs with /*/. If preceded by a consonant, it occurs as [l̩].

1.119 /r/ includes a variety of trills.

[r$_2$] occurs in /+rV/. After /#/ it is preceded by a short glottal stop.

[r$_1$] occurs in /VrV/ or /VrC/ (provided the consonant is a stop) and before /+/ when there is no drop in tone.

[ɾ] occurs before fricatives and nasals. It also occurs before /+/ when there is a drop in tone.

[ɾ̩] syllabic occurs in /+rC/. The syllabic quality of this allophone is due to [$^{\vartheta}$] which always occurs with it. This [$^{\vartheta}$] sometimes seems to be whispered and may be overshadowed by the trill.

[r$^{\gamma}$] a domal trill occurs with /*/.

1.2 Vowels

1.21 /i/ includes a variety of sound types.

[ɪy] occurs in /+iV/ or /+i-V/. It also occurs in /ViV/ or /CiV/. In some cases the initial component is shortened, so that it appears to vary freely with [y].

[i] occurs in /+iCV/, /Ci:/, /CiC:/, /Ci+/, /+i-C/. It should be noted that the following consonant may not be /g/, /x/, or /h/.

[iɤ] occurs as a variant of [i] in /+i-C/.

[ɪ] occurs in /CiC/ unless the second consonant is /g/, /x/ or /h/, or is followed by /*/. It also occurs before two consonants.

[ɛ] occurs with /g/, /x/, /h/, and in /iC*/. It should be noted that [ɪ] and [ɛ] may be lowered slightly so that they approach the upper mid vowels.

1.22 /a/

[a] occurs before /+/. After /+/ it varies freely with [æ] before consonants.

[æ] occurs in /CaC/ (but not /CaC*/ or /CaC:/). It also occurs in /+aC/ as a free variant of [a].

[æ̀] approaches [a] and occurs before /i/ and /u/.

[ɑ] occurs in /aC:/ or /aCC/.

[ɑ] occurs with /*/.

1.23 /u/

[ʊ̈w] occurs in /+uV/ or /+u-V/. It also occurs in /VuV/ or /CuV/. The initial component is shortened, so that this sound often occurs as [w].

[uʊ̈] differs from the preceding allophone in that the initial component is not shortened, while the final component is, so that the sound may be heard as [u] in rapid speech. In slow speech, however, this is not the case, and the two components may be heard. Further evidence for the presence of [ʊ] is given by the fact that the addition of an affix beginning with a vowel results in a lengthening of the [w]: e.g., [ɻmitru], [ɻmitruwæt].

[u] occurs in /+uC/ and /uC:/. It also occurs in /Cu:/ or /uC+/.

[ʊ] occurs in /CuC/ but not in /CuC*/.

[ʊ'] differs from the preceding sound in that it is slightly lower and approaches [o]. It occurs with /*/.

1.3 Suprasegmental Components

1.31 /*/. This phoneme indicates a back position for certain consonants and all vowels (except [ᵊ]).[1] It differs from the phonemes described above in that its domain extends over the entire syllable in which it occurs. In the phonemes previously described, the selection of allophones is determined by the phonemes immediately before or after. When /*/ occurs, however, not only the preceding consonant, but also the vowel and the consonant before that vowel, if any, are affected: e.g., [ad̤ad̤] 'finger'. In this word, both [d̤]'s are domal, and the vowel between them is a back vowel. Because this is the general structure of sequences containing an emphatic consonant, it may be said that there is an element which extends over the three phonemes in such manner that the point of articulation is further back. The domain of the phoneme /*/ may then be described more exactly as /CVC*/, and the example just given can be written /adad*/. It should be noted that not all consonants have special allophones occuring with this phoneme. Those that do are /t d k s z r l/. It should also be noted that in may cases /*/ may be dropped, so that many words have two forms: e.g., /gidad~gidad*/.

[1] [ᵊ] is, of course, non-phonemic. See Appendix to Chapter I, p.9.

1.32 /:/. This element indicates increased tension. It is like the preceding phoneme in that its domain is /CVC:/. The consonants in this sequence are characterized by lengthening of the period between closure and release, increased aspiration and a fortis quality. The vowels, on the other hand, are shortened. In the case of [iy̆] and [uw̆], the final component is dropped.[1]

1.4 Junctures

1.41 /+/. This phoneme differs from those already described in that it is not heard as a distinct sound but rather as an interruption in the sequence of sounds. Because it determines the selection of the allophones of the phonemes around it, however, it must be considered phonemic. It is, perhaps, the most easily recognized juncture, for it occurs between words.

In the description of the sound types included in /i/ it was stated that before vowels the form [iy̆] was used. The utterance [ɪyæsiɑḳsær,i] 'he brought the bowl' would seem to contradict this statement. Although [ɪy] would satisfy the requirements for inclusion in /i/, [i] occurring before [ɑ] would not. A further examination of the utterance, however, discloses that it may be divided into two parts, each of which satisfies the definition of the term "word". An additional element may then be included in the utterance indicating that each part is a word. This element is /+/. The utterance is then: [iyæsi+ɑḳsæri]. The environments of [iy̆] and [i] are no longer the same. Because there is no contrast, both may be included in /i/.

1.42 /-/. Like /+/, this is not heard as a separate sound. It is not so easily recognized, because it may not be heard as an interruption in the flow of speech. It must be considered phonemic, however, because of its influence on the selection of allophones around it. It occurs between stems and affixes.

In the utterance /ifraḥ/ 'he enjoyed', the initial sound [i] seems to contradict the conditions for inclusion in /i/. (Since it is before two consonants, it should occur as [ɪ].) When the utterance is examined further, however, it becomes apparent that there is an additional element between /i/ and /fr/. This element is the phoneme /-/.

1.5 Contours

1.51 /↓/ is a contour phoneme extending over the utterance in which it occurs. The chief characteristic is a drop in tone for the last vowel of the utterance before /↓/.

1.52 /↑/ is also a contour phoneme. It differs from /↓/ in that there is a high tone on the two vowels just before it.

[1]For a discussion of spectrographic data on this phoneme, see the Appendix to Chapter I.

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1.6 The element /#/

/#/ marks the end of phrases. It is included here because of its importance in describing certain morphophonemic changes which depend upon its presence or absence in certain utterances.[1]

1.7 Distribution of phonemes

The phonemes described above may be classified briefly as consonants, vowels, suprasegmental components, junctures, and suprasegmental contours. In this section the distribution of these phonemes relative to each other will be discussed.

1.71 Distribution of vowels

The phonemes /i/, /a/, and /u/ may occur before and after consonants. They also occur before or after /+/ or /-/, but not in the sequence /+V+/; that is, a single vowel may not constitute a word.

Sequences of two different vowels occur frequently. When the first vowel of the sequence is /a/, the phonetic form of the second vowel is determined by the phoneme that follows the sequence. If the following phoneme is a non-syllabic consonant, the two vowels are heard as a diphthong: e.g., /autil/ 'hare', /aidi/ 'dog'. If the phoneme that follows is a vowel, the sound before it is consonantal while the first vowel of the sequence is vocalic: e.g., /aui/ [æwiy] 'bring'; /aiur/ [æiyʊr] 'moon'. It is clear that in /aVV/ there is a syllabic division after /a/ so that the central vowel is divided between the two syllables. The same is true when the third phoneme of the sequence is a syllabic consonant.

When the first vowel of the sequence is /i/ or /u/, the pattern is different. In these cases, it is the initial vowel that loses its vocalic quality (or has the vocalic component shortened) and is heard as a glide ([y] or [w]): e.g., /ian/ [yæn] 'one'; /agiul/ [agiyul] 'donkey'; /ualu/ [wæluw] 'nothing'; /i-zuzua/ [izʊzwa] 'it is cool'.

Clusters consisting of two of the same vowels (/ii/, /uu/) do not often occur, but a few examples can be found: /iih/ [iyɨh] 'yes'; /uuri/ [uwʊri] 'return'. Apparently the sequence /aa/ does not occur.

It can be stated, then, that vowels occur in /+V-/, /-V+/, /+VC/, /+VV/, /CVC/, /CVV/, /VVC/, /VVV/, /CV+/, /VV+/. The only exception is /a/, which may occur in any of the environments listed above except before another /a/.

1.72 Distribution of consonants

Consonants may occur after or before /+/, but not in /+C+/; i.e., a single consonant may not constitute a word. They may also occur freely before and after vowels, so that sequences such as /+CV/, /VCV/, /VCCV/, /+C-V/, and /V-C+/ are possible. The chief question to be considered in this section is that of consonantal clusters. Consonants

[1] For a detailed description of this element, see Chapter II, 2.5.

occurring next to each other may be considered a cluster if they are not separated by [ᵊ][1] or /+/. A test of whether two consonants in the sequence form a cluster is the range of /ː/. If the sequence is a cluster, both consonants show increased tension when /ː/ occurs after the sequence. If the sequence is not a cluster, only the second consonant shows increased tension when /ː/ occurs. It can be stated at the outset that there are no clusters involving the repetition of one phoneme; i.e., sequences such as /tt/, /nn/, etc., do not occur.

The first group of consonants, /t k b d g/, may be classified as stops. Consonants of this group do not form clusters with other members of the same group. When the stops occur initially before phonemes of the second group, /f s š z ž/, the distribution is complementary if the stops are divided into two classes: voiced and voiceless. The voiceless stops may form clusters with /f s š/ but not with /z ž/. The opposite is true for voiced stops: e.g., /tfaḥː/ 'apples'; /tsa*/ 'laugh';[2] /dzirt/ 'island'; /džnant/ 'garden'. The same is true when /k t b d/ occur initially before /ḥ h ʕ/. /g/ does not occur with any of this group of phonemes. With /r/, the distribution is again complementary; the voiceless stops do not form clusters with this phoneme, while the voiced stops do. All stops occur initially with /m n l/ as clusters but not with /x g/. These stops occur as the initial members of final clusters, i.e., in /CC+/, only with members of the second group of consonants. Here again the distribution is complementary. The voiceless stops form clusters only with /f s š/ while the voiced consonants form clusters only with /z ž/.

The preceding statements together with the charts that follow, make it possible to predict the occurrence of [ᵊ] in a sequence. In a sequence of two consonants, if the phonemes do not form a cluster, [ᵊ] occurs between them. In a sequence of three consonants, [ᵊ] will occur between any two members of the sequence which do not form a cluster; e.g., /lfdur*/ 'breakfast'. In this word, /l/ and /f/, since they occur initially, may not form a cluster, and so the first phoneme occurs with [ᵊ] and is heard as [l̩]. /f/ and /d/ may not form a cluster, so that [ᵊ] occurs between them. The sequence phonetically would then be [ᵊlfᵊḍor].[3]

[1]The symbol [ᵊ] is used in this discussion of the distribution of consonants for the special type of release discussed in the Appendix to Chapter I.

[2]The two words just cited give a clear example of the domain of /ː/ and /*/ in consonantal clusters. In the first word both /t/ and /f/ show additional tension. In the second word both /t/ and /s/ occur with pharyngealization. In the word /tduː/ 'she went', only /d/ shows additional tension, because /t/ does not combine with /d/ to form a cluster.

[3]With /l m n r/ the [ᵊ] may be heard at the end of the consonant so that this word might also occur as [lᵊfᵊḍor].

1.8 Stress

Stress in Shilha is a non-phonemic feature. The stress patterns may be summarized briefly by stating that primary or heavy stress occurs on the last vowel of the stem, provided that the word has no affixes after the stem. If there is an affix after the stem, and this affix contains a vowel, there is secondary or medium stress on the last vowel of the stem and also on the vowel of the affix. Affixes occurring before the stem and containing a vowel have medium stress; and the final vowel of the stem has heavy stress. The other vowels of the stem have zero stress.[1]

Appendix to Chapter I

1A.1 Consonantal release

The consonantal release referred to in section 1.1 is an important feature of the phonology of Shilha. Although the perception of the release may be influenced by the environment, there are certain characteristics that are constant for each consonant. These characteristics were made clearer through the analysis of material with a sound spectrograph. The spectrographic data show clearly not only the positions of vowel formants, but also the frequencies at which concentrations of energy occur in consonants.

In the utterance /ibit/ 'he cut it', the concentrations of energy after [t] occur at approximately 1825 cycles and 2875 cycles respectively, and last for approximately 0.2 second. There is also a concentration of energy at approximately 500 cycles which is shorter in duration. The same concentrations of energy are found after [t] in the words /ifat/ 'he gave it' and /bdixt/ 'I started it'.

In the utterance /tagit/ 'hole', the formants of the vowel /a/ appear at 750 cycles and 1500 cycles respectively. These formants do not appear as straight lines, however, as they do for an isolated /a/, but as curves with starting points at approximately 500 cycles and 1800 cycles respectively. These starting points coincide with the frequencies at which concentrations of energy occur after [t] in final position.

[1] It should be noted that the stress patterns referred to here apply only to utterances consisting of a single word. If the utterance contains more than one word, the stress is reduced slightly on all vowels except those in the final word. It can be said, therefore, that primary stress occurs only at the end of an utterance.

INITIAL CLUSTERS

First Consonant	Second Consonant: t	k	b	d	g	f	s	š	z	ž	x	ġ	ḥ	h	ʿ	m	n	l	r
t						tf	ts	tš					ṭh			tm	tn	tl	
k						kf	ks	kš					kḥ			km	kn	kl	
b									bz	bž				bh	bʿ	bm	bn	bl	
d									dz	dž				dh	dʿ	dm	dn	dl	dr
g									gz	gž						gm	gn	gl	gr
f	ft	fk					fs	fš							fʿ	fm	fn	fl	fr
s	st	sk				sf					sx		sḥ		sʿ	sm	sn	sl	sr
š	št	šk				šf					šx		šḥ		šʿ	šm	šn	šl	šr
z			zb	zd	zg									zh	zʿ	zm	zn	zl	zr
ž			žb	žd	žg									žh		žm	žn	žl	žr
x						xf	xs	xš											
ġ									ġz	ġž							ġn		ġr
ḥ	ḥt	ḥk				ḥf	ḥs	ḥš							ḥʿ	ḥm	ḥn	ḥl	
h																			
ʿ																			
m															mʿ				
n															nʿ				
l															lʿ				
r															rʿ				

FINAL CLUSTERS

First Consonant	Second Consonant: t	k	b	d	g	f	s	š	z	ž	x	ǧ	ḥ	h	ʻ	m	n	l	r
t						tf	ts	tš											
k	kt					kf	ks	kš											
b									bz	bž									
d									dz	dž									
g									gz	gž									
f	ft	fk					fs	fš											
s	st	sk				sf													
š	št	šk																	
z			zb	zd	zg					zž		zǧ							
ž			žb	žd	žg							žǧ							
x	xt	xk				xf	xs												
ǧ				gd					gz	gž									
ḥ	ḥt	ḥk				ḥf	ḥs	ḥš											
h																			
ʻ																			
m	mt	mk	mb	md		mf	ms	mš	mz	mž	mx	mǧ	mḥ	mh					
n	nt	nk		nd	ng	nf	ns	nš	nz	nž	nx	nǧ	nḥ	nh					
l	lt	lk				lf	ls	lš	lz	lž		lǧ	lḥ			lm	ln		
r	rt	rk	rb	rd	rg	rf	rs	rš	rz	rž	rx		rḥ			rm	rn	rl	

In the word /tgit/ 'you are' the concentrations of energy occur at approximately the same positions for both the initial and the final [t]. There seems to be greater aspiration after the final [t], however, and the duration of the lowest concentration of energy is longer in the initial [t].

The concentrations of energy at 500 cycles and 1825 cycles, if extended, would be heard as a vowel, possibly [e] or [ɪ]. In final position the lower formant is of such short duration that the vocalic quality is lost. The same is true when [t] occurs before a vowel. When [t] occurs before [g], however, the lower formant is longer than in the preceding cases, so that a vowel is heard between the two consonants.

An examination of the spectrograms of the utterances /ibi/ 'he cut' and /ibit/ 'he cut it' shows a similar pattern for [b]. The initial [i] has formants at 300 cycles and 2250 cycles respectively, and they appear as relatively straight lines. The second [i], however, has a first formant which appears as a slight curve, beginning at approximately 500 cycles and falling to 300 cycles. The second formant begins at 1600 cycles and rises to 2200 cycles. When [b] occurs before a consonant the concentrations of energy occur at 500 cycles, 1500 cycles, and 2200 cycles. These concentrations of energy seem to coincide with the starting points for the curves which indicate the formants of the vowels in the previous utterances. An example of this fact is found in the words /i-bda*/ 'he started' and /i-bdat*/ 'he started it'. In each of these words the concentrations of energy for [b] occur at approximately 500 cycles, 1500 cycles, and 2200 cycles. In the word /bdig*/ 'I started', the concentrations of energy are found at the same points, but the lowest is longer in duration than in the previous words. In this case, therefore, a vowel resembling [ə] is heard between [b] and [d].

Although it has not been possible to obtain spectrograms of all combinations of consonants with vowels and consonants with consonants, enough have been made to support the conclusion that the release of consonants is characterized by concentrations of energy at definite frequency levels. Furthermore, when the consonants occur before other consonants with which they cannot combine to form clusters,[1] the duration of the lowest concentration of energy is lengthened, so that the sequence of two consonants is heard as [CV̆C]. The vocalic sound varies, depending upon the consonant. After the dental consonants, it seems to occur as [ɪ]; after labials, it occurs as [ə]; and after velars as [ʌ].[2]

[1]See section 1.72.

[2]This would account for the special series of short and very short vowels recognized by some linguists in Shilha. Cf. Stumme, Handbuch

With the phonemes /l m n r/ the vocalic components seem to extend through the entire consonant, so that the consonant may be heard as a syllabic sound when it occurs before another consonant or as a sequence of [V̆C] or [CV̆]. The syllabic nature of these consonants has been recognized in other languages. When the facts presented above are considered, however, it is possible to state that in Shilha not only /l m n r/ but all consonants in certain environments have syllabic allophones.

1A.2 The influence of /:/

By comparing spectrograms of utterances in which /:/ occurred with those in which it did not occur, it was possible to determine more exactly the influence of this phoneme.

In the word /ibit/ 'he cut him', the period between the closure and release of [t] was approximately 1/2 inch or 0.1 second. The duration of the second [i] was approximately the same. In the word /ibit:/ 'he cut her' the period between the closure and release of the [t] was approximately 15/16 inch or 0.1875 second, while the span of the preceding [i] was approximately 1/4 inch or 0.05 second. The aspiration following [t] was greater in the second word than in the first, while the span of [b], including the release, was slightly longer in the second utterance.

In the word /i-bdat*/ 'he started him' the duration of [a] was approximately 9/16 inch or 0.1325 second, and the period between the closure and release of [t] was 7/16 inch or 0.0875 second. In /i-bdat*:/ 'he started her', the span of [a] was reduced to 3/8 inch or 0.075 second, and the period between closure and release of [t] was increased to 13/16 inch or 0.1625 second. The aspiration after [t] was darker and the concentrations of energy were more clearly defined in the second word than in the first. The span between [b] and [d] remained constant, however.

Similar comparisons were made between the words /ifat/ 'he gave him' and /ifat:/ 'he gave her'; /bdixt/ 'I started him' and /bdixt:/ 'I started her'; and /bixt/ 'I cut him' and /bixt:/ 'I cut her'. In each case the results were similar. The consonant occurring before /:/ was lengthened while the vowel was shortened. Moreover, the concentrations of energy in the consonantal release were more clearly defined. In addition, the consonant preceding the vowel was lengthened slightly. In /bixt:/ all three consonants were influenced. In /bdixt:/ only [d x t] were influenced.

These facts would indicate that the influence of /:/ extends over /CVC/, /VC/, /CV/, or /CVCC/ unless there is a syllabic division.

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des Shilhischen von Tazerwalt, p. 8, and Destaing, Étude sur la Tachelhit du Sous, pp. vi et seq.

CHAPTER II

MORPHOPHONEMICS

2.0 Introduction

The morphophonemic changes which occur in Shilha may be divided into five classes: assimilation; dissimilation; epenthesis and reduplication; apocopation; and substitution, i. e., replacement of one phoneme by another which may be unrelated to the original. Only those changes which affect a large number of morphemes will be discussed in this section. Cases of unique alterations, such as those which occur in the plural morpheme, will be discussed in the description of these morphemes in the section on morphology (Chapter III).

2.1 Assimilation

Assimilation is the name given to the change of one consonant to another so that it becomes more similar to another consonant in the environment.

2.11 $C_{vd}C_{vl} > C_{vl}C_{vl}$[1]

This change takes place in a large number of morphemes consisting of a single voiced consonant or a sequence of phonemes ending with a voiced consonant. When these morphemes occur before a voiceless consonant, the voiced consonant is unvoiced: e.g., /zrig/ 'I saw' > /zrixt/ 'I saw him'; /iumz/ 'he took' > /iumst/ 'he took it'.

2.12 $C_{vl}C_{vd} > C_{vd}C_{vd}$

This change occurs in some morphemes consisting of a single voiceless consonant or ending in a voiceless consonant when they occur before a voiced consonant. In this case, the voiceless consonant is voiced: e.g., /is-/ (interrogative particle) > /iz-d/; /s-/ (causative) > /z-bid/ 'cause to stand'. It should be noted that this change does not occur with all morphemes. The subject pronominal affixes, for example, do not show this alteration.

2.2 Dissimilation

Dissimilation is the name given to the process in which one consonant is changed so that it becomes less similar to another consonant in the environment. Unlike assimilation, which seems to operate chiefly in the voicing or unvoicing of consonants, dissimilation seems to involve a change from one phonetic type to another, e.g., stop to spirant or fricative.

In the discussion of the distribution of consonants it was stated that

[1]Symbols: > = "becomes"; vd = "voiced"; vl = "voiceless".

two stops may not occur together.[1] When {t} occurs before a stem beginning with a stop, it is often changed to /š/ or /ž/: e.g., /t-da*lb/ 'she asked for' > /ž-da*lb/. This change is not a regular one; for the dissimilation may alternate freely with the introduction of [ə].

2.3 Epenthesis and Reduplication

Epenthesis and reduplication are similar processes. The first involves the addition of a phoneme in certain environments, while the second refers to the repetition of a phoneme or sequence of phonemes in a certain environment.

2.31 The morpheme /ra-/ (future) occurring before a verb stem has the form /rad-/. When it occurs before another verbal affix, however, it has the form /ra-/: e.g., /raiaf/ 'he will give', /radafg/ 'I will give'.

2.32 One class of verb affixes, which may be described syntactically as indirect objects, consist of a consonant preceded by /a/. When these affixes occur after a vowel, /i/ is prefixed: e.g., /iufaiak lktab/ 'he gave you the book', /urakifi lktab/ 'he did not give you the book'.

2.33 Reduplication occurs most frequently in prepositional affixes. It should be noted that this change occurs only when the pronominal affix begins with a vowel or a nasal. When the affix begins with a stop or spirant, the change does not take place. E.g., /di-/ 'with', /didi/ 'with me', /didng/ 'with us', /dik/ 'with you'.

2.4 Apocopation

Apocopation describes the loss of a phoneme at the beginning or end of a morpheme. It seems to occur when the same phoneme occurs in two adjoining morphemes.

2.41 $VC_1VC_1 > VC_1V \sim VC_1C_1V > VC_1V$

This change is found in the verbal affixes /ar-/ (progressive) and /ra-/ (future). When these morphemes occur after /ur-/ (negative) the second consonant is dropped. E.g., /ratfraḥt/ 'you will enjoy', /uratfraḥt/ 'you will not enjoy'; /aritfraḥ/ 'he is enjoying', /uraitfraḥ/ 'he is not enjoying'.

This change also occurs when the morpheme {-t-} occurs with {t-}. Then one of the consonants is lost, so that /arttdu:/ 'she is going' occurs as /artdu:/.

2.5 Substitution

In this category are those changes which involve the replacement of one phoneme by another. Changes which involve the change of a

[1] Cf. section 1.72.

sequence of phonemes to another sequence which may have no similarity to the first are discussed in the description of the individual morphemes.

One change of this type is sufficiently general to be discussed in this section. It is important because it furnishes additional information about phrase boundaries which will be considered in Chapter IV. This change involves the change of /a-/ (nominalizer) to /u-/. A large number of nouns in Shilḥa are formed by attaching this morpheme to verb stems. When these nouns occur after /‖/ or /#/, i.e., at the beginning of a sentence or the beginning of a phrase, there is no change in /a-/. In other positions, however, the /a-/ becomes /u-:/, e.g., /afrux izri# argaz/ 'the boy saw the man'. The order of words in the utterance may be changed so that it appears as /i-zri ufrux# argaz/. It can be seen that there is some connection between /i-zri/ and /afrux/ because the presence of /i-/ is determined by /afrux/. If /afrux/ were replaced by /tafruxt/ 'girl', the /i-/ would be replaced by /t-/. This does not happen when /argaz/ is replaced by /tafruxt/, however. The two words /afrux/ and /i-zri/ may be said to be members of a phrase. When /afrux/ occurs initially in this phrase, the prefix is unchanged. When it occurs in non-initial position, however, the /a/ becomes /u-/. Another example of the effect of phrase boundaries is found in the utterances: /zrig# agiul/ 'I saw the donkey' and /zrig lḥuš ugiul/ 'I saw the stable of the donkey'. It should be noted that this change also occurs after /-/: e.g., /ya-ugiul/ 'one donkey'.

CHAPTER III

MORPHOLOGY

3.0 Introduction

Morphemes in Shilha may be divided into three major classes: stems, affixes and particles. This division is determined by their distribution. Stems may occur as free forms or with affixes. In some cases they may constitute a complete utterance: e.g., as commands, as answers to questions or as exclamations. Affixes are bound forms which can never occur independently. In many cases, affixes consist of a single phoneme, and this is one of the facts that serves to distinguish them from stems and particles. Particles, like stems, are forms which may occur independently, but they are distinguished from stems by the fact that they do not occur with the affixes with which stems occur.

In this section, morphemes will be described, and their distribution as well as the morphological processes involved in the formation of words will be discussed. Words in Shilha may be described in terms of their structure. A word may consist of a single morpheme: e.g., particles. In other cases, a word may consist of a stem with one or more affixes. A third class of words is formed by the combination of affixes. Finally, there are compound words which are formed by the combination of two words.[1]

3.1 Stems

These morphemes may be divided into two classes, nouns and verbs, because of the affixes with which they occur. Within each class a further division is possible, since stems may be described in terms of structure as basic or derived. A basic stem is one which may occur independently or with affixes and which has no apparent connection with other stems in the language. A derived stem may be described as a stem with a formative affix. It should be noted that formative affixes may be added to either basic or derived stems, so that several derived stems may be formed from one basic stem by the addition of formative affixes one after another.

3.11 Noun stems

Nouns are stems which occur only with the affixes in subclasses 1 and 3. There are some which are basic stems, but a large number are derived forms. Many nouns, however, have been borrowed from

[1]In this section, isolated morphemes are enclosed in braces { }, and the juncture between prefix and stem or suffix and stem is indicated by the hyphen -. Word boundaries are indicated by a space. The transcription is phonemic.

other languages, chiefly Arabic, and these should be considered basic stems. All stems classified as nouns, whether basic or derived, have as an implicit characteristic, gender. This is shown by the fact that every noun may be replaced by one of two words: /nta/ 'he' or /ntat/ 'she'.[1]

The largest group of derived nouns are those beginning with {a-}. It can be shown that these are forms derived from verb stems. Almost all of these nouns are masculine, and they refer to the performer of an action: e.g., /a-mksa:/ 'shepherd' < /mksa:/ 'graze'; /a-dal/ 'mantle' < /dl/ 'cover'; /a-bnai/ 'builder, mason' < /bnu/ 'build'; /a-nda*lab/ 'beggar' < /da*lb/ 'ask for'.

A second group of derived nouns includes those formed from verb stems by the addition of the morpheme {l-}. It should be noted that not all nouns beginning with /l/ are members of this class; for many nouns borrowed from Arabic retain the Arabic article although it loses its syntactic function in Shilḥa and appears merely as an inseparable part of the noun. It is possible that this fact has influenced the formation of nouns with the morpheme cited above. Nouns beginning with {l-} are usually masculine and refer to a state; e.g., /l-farḥ/ 'pleasure' < /farḥ ~ fraḥ/ 'enjoy'; /l-ḥma/ 'heat' < /ḥma/ 'be hot'; /l-hna:/ 'peace' < /hnu:/ 'rest'.

A third group of nouns is formed by the addition of {bu-} to noun stems, either basic or derived. These nouns are usually masculine and refer to the owner of an object or the possessor of a characteristic: e.g., /bu-lu*tal/ 'owner of a hotel'; /bu-l-hna:/ 'one who is at rest'.

A fourth group of nouns has been formed by the addition of the morpheme {t...t} to noun stems, either basic or derived. Many of the nouns formed in this way are feminine counterparts of nouns beginning with {a-}: e.g., /t-a-mgar-t/ 'woman' < /a-mgar/ 'sheik'; /t-a-xdam-t/ 'cleaning woman' < /a-xdam/ 'worker'. In some cases the nouns formed with the affix {t...t} may be diminutives: e.g., /t-igždi-t/ 'small log' < /igždi ~ agždi/ 'tree trunk'.

Another group of derived nouns has been formed by the combination of {bab} 'owner, master' with basic or derived noun stems. These nouns occur as alternants of those formed with {bu-} in many cases: e.g., /bab-l-farḥ/ 'one who enjoys'; /bab-l-hna:/ 'one who is resting'; /bab-lu*tal/ 'owner of a hotel'. They must be considered compound words, however, for they are formed by the combination of two words rather than a stem and an affix.

The nouns described above may be considered members of one class, for it is possible to substitute /nta/ or /ntat/ for any of them occurring in the sequences /...i-V/ or /...t-V/ respectively. Another

[1] A more complete discussion of gender will be found in section 4.2.

fact which supports this classification is found in the syntactic analysis, namely that they occur with verbs to which the third person pronominal affixes have been added. In the following portions of the description the symbol Na will be used for this class of nouns.

A second class of nouns includes words which may be described syntactically as pronouns. They are considered members of a subclass of nouns because they occur with the same affixes with which noun stems occur although there are certain syntactic differences which serve to distinguish them from members of the subclass Na. The symbol Nb is used in referring to the members of this particular subclass.

The first group of nouns in this subclass includes the personal pronouns. The members of this group are: /nki/ 'I', /kii/ 'you', /nta/ 'he'. When the plural morpheme {i...n} is added, the following changes occur: /nki/>/nukni/, /kii/>/kuni/, /nta/>/ntni/. All of the forms except /nki/ may occur with the feminine morpheme {t...t}. When the latter morpheme is added, the following changes occur: /kii/>/kimi/, /nta/> /ntat/, /nukni/>/nuknti/, /kuni/>/kuninti/, /ntni/>/ntnti/. These words may occur as independent forms in the same environments in which the noun stems of Na occur. The feature that distinguishes them from members of the previous subclass is the change that occurs when any inflectional affix is added. Then the forms occur as suffixes rather than independent words. After the possessive morpheme {n-} the following changes occur: /nki/>/-u/, /kii/>/-k/, /kimi/>/-km/, /nta ~ ntat/>/-s/, /nukni ~ nuknti/>/-g/, /kuni/>/-un/, /kuninti/>/-unt/, /ntni/> /-sn/, /ntnti/>/-snt/. With the exception of the first, /nki/>/-u/, these are the forms that occur with the other inflectional affixes as well as with {n-}. After other inflectional affixes, /nki/>/-i/. After {n-}, the forms function as possessive pronouns: e.g., /tigmi-nu/ 'my house'. After other affixes, the entire sequence may function as a verb or, in some cases, a noun: e.g., /dar-i lktab/ 'I have a book' (literally, 'to me a book'); /i-da: s-dar-sn/ 'he went to their house'.

The second group of nouns in the subclass Nb includes the demonstrative and relative pronouns. The demonstrative is {gua}. When the feminine morpheme is added, it becomes {xta}. With the addition of the plural morpheme, /gua/>/gui/ and /xta/>/xti/. These forms occur with the locative affixes to form words that may be substituted for members of the subclass Na: e.g., /gua-d/ 'this one'; /xta-n/ 'that one'. The relative pronoun {li:} 'who' is included in this subclass, and it is important to note that it may occur with the demonstrative to form a word that functions as an absolute relative: e.g., /gua-li:/ 'the one who'; /xta-li-d:/ 'this one who'.

The members of the third subclass of nouns, Nc, are numerals and quantifiers. They may be considered nouns because they occur with the same inflectional affixes with which other noun stems occur. The

reason for assigning them to a special subclass is the fact that they may occur as prefixes. This is especially true of {ian} 'one'; {sin} 'two'; {kulu} 'each, every'. When {ian} occurs as a prefix, it has the form /ia-/, and it may function as an article which is similar to the English article 'the'; e.g., /i-zra* agiul/ 'he saw a donkey' or 'he saw the donkey'; /i-zra* ia-ugiul/ 'he saw one donkey' or 'he saw one (definite) donkey'. When {kulu} occurs as a prefix, the final vowel is lost.

The Shilha numerals from 1 to 29 are used in rural areas for counting, especially by women. In cities and towns, the Arabic numerals from 3 to 29 are used by men in business transactions. The numerals from 1 to 10 are basic stems; those from 11 to 29 are compound words formed by adding the numerals from 1 to 9 to {mrau} 'ten' to which the prefix {d-} 'with' has been added: e.g., /ian-d-mrau/ 'eleven'. {mrau} with the plural morpheme means 'twenty', so that the numbers from 21 to 29 are formed by adding the numerals from 1 to 9 to the form /mrau-in/ with the prefix {d-}: e.g., /sin-d-mrau-in/ 'twenty-two'. After twenty-nine, Arabic numerals are used exclusively.

The ordinal numbers are formed from the cardinal numbers, with the exception of /ian/, by adding the prefix {uis}. With the feminine morpheme, /uis-/>/tis-/.

3.12 Verb stems

Verb stems are those which occur with the affixes in subclasses 2 and 3. Like nouns, they may be divided structurally into two classes: basic stems and derived stems. Although many basic stems have been borrowed from Arabic, they usually conform to the inflectional patterns of native stems. It is important to note that derived verb stems are formed from basic verb stems. There seem to be no verb stems that have been derived from noun stems.[1]

There are three categories of derived verb stems. The most frequent in occurrence are those formed by the addition of {s-}: e.g., /s-fsi/ 'still, silence' < /fsi/ 'be quiet'. These stems are usually causative in meaning. Another class of derived stems consists of those formed by the addition of {m-}: e.g., /ma-kl*/ 'meet' < /kl*/ 'wait for, see'. In many cases, these stems have a reciprocal or reflexive meaning. The third type of derived stems consists of those verbs formed by the addition of {t-}: e.g., /t-fsr/ 'be spread out' < /fsr/ 'spread'. These verbs are usually passive.

Just as gender is an inherent characteristic of nouns, so tense is an inherent characteristic of verbs. A verb stem occurring without

[1]A possible exception to this is the verb /saual/ 'speak' which may have been derived from the noun /aual/ 'speech, talk, conversation'. No other cases could be found, however. It is highly probable that the noun itself is a derived stem formed by adding {a-} to a basic stem /ul/ 'noise, sound'.

affixes, or with the affix {∅...∅}, must be considered a command rather than an infinitive.

3.2 Affixes

Affixes have been defined as morphemes which may not occur independently. They may be classified by the type of stems with which they occur: one class occurs only with nouns, a second class occurs only with verbs, and a third class occurs with both nouns and verbs. Structurally, they are of three types: prefixes, suffixes, and broken morphemes, i.e., prefix and suffix attached to the same stem. Phonologically, they may be distinguished from stems by the fact that many of them consist of a single phoneme. It has been stated above that this is not the case with stems or particles; for a single phoneme may not occur in the environment /+...+/. In terms of function they may be classified as formative or inflectional. The formative affixes are those which may be added to stems to form new stems to which the same inflectional affixes are added that are added to basic stems. Inflectional affixes are those which when added to a stem form a word that cannot be substituted for a basic stem; i.e., an inflectional affix determines the subclass of affixes from which subsequent affixes for the word are chosen. It is necessary, therefore, to consider not only which affixes occur with which stems, but also which affixes occur with each other.

3.21 Noun affixes[1]

{t...t} is a formative affix which may be added to noun stems classified as masculine. It occurs most frequently with stems beginning with /a/ to form a derived stem which is the feminine counterpart of the first: e.g., /a-šfar/ 'thief' (m.), /t-a-šfar-t/ 'thief' (f.); /agiul/ 'donkey' (m.), /t-agiul-t/ 'donkey' (f.).[2] In some cases the derived stem is a diminutive: e.g., /agžif/ 'palm tree', /t-agžif-t/ 'small palm tree'. With certain nouns which may be described as collective, this morpheme may be used to form a singular: e.g., /lbanan/ 'banana' (as a type of fruit), /t-lbanan-t/ 'one banana'; /rial/ 'dollars, currency', /ta-rial-t/ 'one dollar'. It may be used also to form nouns designating a type of work: e.g., /anžar/ 'carpenter', /t-anžar-t/ 'carpentry'.

When this morpheme is added to a stem beginning with a non-syllabic consonant, it usually has the form {ta...t}. When the stem to which it is added ends with /d*/, there is usually assimilation so

[1]The symbol A is used for the morphemes in this subclass.

[2]This does not mean that the morpheme occurs only with derived stems formed from verbs by the addition of {a-}. There are basic stems beginning with /a/, and {t...t} also occurs in this form with those stems.

that the derived stem ends with /t*/ or /t:/: e.g., /agad/ 'goat' (m.), /t-aga-t*/ 'goat' (f.); /a-glid*/ 'king', /t-a-gli-t:/ 'queen'. With {i...n} (plural) this morpheme is usually apocopated so that it has the form /t...ø/. This does not always happen, and the change usually fails to occur when the derived stem ends with /t*/ or /t:/.

This morpheme also occurs with stems classified as personal pronouns, and the changes occurring have been described above.[1] With other noun stems, it usually has the form /ø...t/. This is always the case when it occurs with numerals: e.g., /ian/, /ia-t/ 'one'; /sdis/, /sdis-t/ 'six'.

{bu-} is another formative prefix occurring with noun stems, either basic or derived. It is used in forming nouns referring to the owner of an object or the possessor of a quality: e.g., /bu-mhand/ 'owner of stickers, porcupine'. These derived stems are usually masculine. It should be noted that these derived stems alternate freely with the compound words formed by the addition of {bab} to noun stems.[2]

{i...n} occurs with noun stems and is used to form the plural. With nouns beginning with /a/, it usually has the form /i...n/ while /a/ > ø: e.g., /argaz/ 'man', /i-rgaz-n/ 'men'; /agad/ 'goat', /i-gad-n/ 'goats'. In some cases, however, the morpheme has the form /i-...(V>a) C/: e.g., /agru/ 'frog', /i-gra/ 'frogs'; /agiul/ 'donkey', /i-gial/ 'donkeys'. In these cases, the initial /a/ is also lost. In a few cases, the form becomes /i-...an/, but this is found only with stems ending with a consonant. There are also cases in which /i...n/>/ø...n/: e.g., /a-dag/ 'bush', /a-dag-n/ 'bushes'; /adžar/ 'neighbor', /adžar-n/ 'neighbors'.

When {i...n} occurs with noun stems containing the morpheme {t...t} (feminine), it usually has the form /i...in/. The initial vowel of the stem becomes ø while /t...t/ becomes /t...ø/: e.g., /t-afulus-t/ 'hen', /t-i-fulus-in/ 'hens'; /t-amdakul-t/ 'friend', /t-i-mdakul-in/ 'friends'; /t-a-mgar-t/ 'woman', /t-i-mgar-in/ 'women'. Just as in some cases described in the preceding section, the change of the last vowel of the stem to /a/ occurs in nouns formed with {t...t} when {i...n} is added: e.g., /t-a-srgul-t/ 'lid', /t-i-srgal/ 'lids'. In some cases the form is /ø...in/, and the initial vowel of the stem remains unchanged: e.g., /t-azan-t/ 'little girl', /t-azan-in/ 'little girls'.

Another alternant of this morpheme occurs with certain basic stems of native origin. This alternant is /id/. It is this alternant which occurs with nouns formed by the addition of {bu-} or {bab} to a stem: e.g., /bu-mhand/ 'porcupine', /id-bu-mhand/ 'porcupines'; /bab-l-farḥ/ 'he who enjoys', /id-bab-l-farḥ/ 'those who enjoy'; /xali/ 'uncle', /id-xali/ 'uncles'.

[1] See section 3.11.

[2] See section 3.11.

With nouns borrowed from languages other than Arabic, the plural morpheme usually has the form /ø...at/: e.g., /litru/ (Sp. litro) 'liter', /litru-at/ 'liters'; /simana/ (Sp. semana) 'week', /siman-at/ 'weeks'; /lagar/ (Fr. gare) 'railroad station', /lagar-at/ 'stations'. Such nouns are usually of Romance origin. Nouns borrowed from Arabic usually retain the Arabic plural, often an internal phonemic change rather than the addition of a prefix or suffix: e.g., /lktab/ 'book', /lktub/ 'books'; /lbab/ 'door', /lbiban/ 'doors'.

This morpheme also occurs with pronouns, and the resulting forms have been described above.[1] The symbol A2 is used for the plural morpheme.

{n-}, the possessive morpheme, occurs with all stems classified as nouns. It must be considered an inflectional morpheme; for it limits the syntactic function of the stem with which it occurs. Before stems beginning with /a/ it usually has the form /u/. If the initial /a/ is the morpheme {a-} which becomes /u/ after /-/, there is assimilation so that only one [u] is heard in rapid speech: e.g., /agiul u-urgaz/>/agiul u-rgaz/ 'the man's donkey'. Before nouns containing the plural morpheme when the initial phoneme is /i/, the possessive morpheme has the form /i-/ as an alternant. In rapid speech the two vowels are assimilated so that only one is heard. Before stems beginning with /l/ this morpheme alternates with ø. Both /a-fus n-lbab/ and /a-fus lbab/ 'the handle of the door' occur. After the verb /ga/ 'be', the morpheme has the form /ui-/: e.g., /agiul i-ga ui-urgaz-an/ 'the donkey belongs to that man'. When the first noun is feminine, the form /ti-/ is used: e.g., /t-agiul-t t-ga ti-t-a-mgar-t-an/ 'the donkey belongs to that woman'. The symbol A3 is used for this morpheme.

The affixes {d-} 'with', {dar-} 'to', {f-} 'for', {g-} 'in', {i-} 'for', {s-} 'to', and {si-} 'with, by means of' may be described as prepositional affixes. They occur with noun stems either basic or derived. The forms given above are those that occur with all except the personal pronouns. With the personal pronouns, /f-/>/fil-/, /g/>/gi-/, and /i-/>/a-/. Furthermore, when /d-/ or /g-/ occurs with /nki/ 'I', /nukni/ 'we', /kuni/ 'you' (m. pl.) or /kuninti/ 'you' (f. pl.), there is reduplication: e.g., /gigi/ 'in me', /didng/ 'with us', /didunt/ 'with you'. The symbol A4 is used for these affixes.

The remaining prepositional affixes {du-} 'under', {igi-} 'on', {nga-} 'between', {tarf-} 'near', and {ta'ama} 'beside' must be described as members of a special subclass; for they occur only with stems to which {n-} has been added. The symbol used for these prefixes is A5.

An additional affix {ua-} is included in the group of noun affixes. This prefix serves to indicate the vocative forms and the noun to which it is added may function syntactically as a particle. The alternant /a-/ usually occurs with titles and proper names.

[1] See section 3.11.

3.22 Verb affixes

The formative affixes for verbs may occur either with basic stems or with derived stems, i.e., they may occur with each other. A given affix does not occur more than once with the same stem, however.

{s-} is added to verb stems to produce a new stem usually causative in meaning: e.g., /ird/ 'be clean', /s-ird/ 'wash'; /lkm/ 'reach, arrive', /s-lkm/ 'take to a destination'; /fsi/ 'melt' (intransitive), /s-fsi/ 'melt' (transitive). When the morpheme is added to a stem in which /š/, /z/, or /ž/ occurs, there is a morphophonemic change which may be described as reduplication: e.g., /s-kšim/>/ši-kšim/ 'take in'; /s-nz/>/z-nz/ 'sell'; /s-ži/>/ži-ži/ 'cure'. When {s} occurs before voiced stops, there is usually assimilation: e.g., /s-bid/>/z-bid/ 'stand'; /s-drus/>/z-drus/ 'reduce'. This change is not a regular one, and the forms /s-/ and /z-/ may alternate with each other.

{m-} is also a formative affix, but it occurs less frequently than the preceding one. Usually the derived stems formed with this affix have a reciprocal or reflexive meaning: e.g., /ki*/ 'see, wait for'; /ma-ki*/ 'see each other, meet'. When {m-} occurs before /n/, there is usually assimilation: e.g., /m-nag/>/m-ag/ 'fight with each other'. When {m-} occurs before /C...*/, it becomes /ma-/.

{t-} is also a formative prefix used in producing derived stems. It occurs less frequently than either of the previous affixes. The derived stem formed with this affix is usually passive in meaning: e.g., /fsr/ 'spread out', /t-fsr/ 'be spread out'. The fact that many verbs are both active and passive in meaning accounts for the low frequency of occurrence of this morpheme.

{t-} used in forming habitual stems differs from the preceding morpheme in distribution and also in its alternants. The most frequent form is the prefix /t-/ added to the stem: e.g., /bnu/ 'build', /t-bnu/ 'keep building'. In stems containing two consonants /a/ is usually inserted between the consonants: e.g., /sn/ 'know', /san/ 'always know'. In other cases, when the stem consists of /CVC/, /a/ may be added after the last consonant: /mun/ 'accompany', /muna/ 'always accompany'. In other cases, especially when the stem contains /i/ and more than two consonants, /i/ is added: e.g., /s-ird/ 'wash', /s-irid/ 'always wash'. Finally, there are a few verbs in which the morpheme occurs as reduplication, i.e., /C_1VC_2/ or /VC/>/$C_1VC_2VC_2$/: e.g., /sum/ 'sweeten', /sumum/ 'keep sweetening'.

These four morphemes described above are considered members on one subclass, and in the summary of morphological structure the symbol B1 will be used for this subclass.

{a-} is another formative prefix which occurs with verb stems, either basic or derived. Derived stems formed with this affix function as nouns syntactically, and, therefore, this affix must be considered a

member of a different subclass. As indicated above, many nouns in Shilḥa have been formed from verb stems by the addition of this prefix. After /+/ or /#/ the affix has the form /a-/. After /-/, or when it occurs in non-initial position in a phrase, it becomes /u-/. This change has influenced other nouns beginning with /a/ so that even borrowed nouns, which should be considered basic stems since they have not been formed from other stems in the language, may show this change from /a/ to /u/: e.g., /asnus/ 'donkey', /ia-usnus/ 'one donkey' (Lat. asinus).

{l-} is a member of the same subclass to which {a-} belongs, for it is a formative prefix added to verb stems, either basic or derived, to form a stem which functions syntactically as a noun. The use of this affix may be due to Arabic influence. Usually nouns formed with this affix refer to an action, a state, or a condition: e.g., /l-farḥ/ 'pleasure' (/farḥ/ 'enjoy'); /l-ḥma/ 'heat' (/ḥma/ 'be hot').

Because these two morphemes are similar in distribution, they may be considered members of the same subclass. The abbreviation B2 will be used for this subclass. The fact that these prefixes when added to a stem form sequences that occur with a subclass of affixes different from that with which the stems occur shows the importance of considering not only the stems to which affixes are attached but also the affixes that may subsequently be attached to the sequence.

The inflectional affixes for verbs may be divided into four subclasses. The first three are temporal, modal, and pronominal. In addition, there is an imperative morpheme which is equivalent in distribution to the sum of the first two of these classes. The symbol B3 is used for temporal affixes; B4 for modal affixes; and B5 for pronominal affixes. The symbol B6 refers to the imperative morpheme.

The temporal affixes may be divided into two subclasses on the basis of structure. The first class consists of those affixes which occur as prefixes. In the second class are the morphemes which involve an internal phonemic change.

{ar-} is attached to verb stems to form a progressive tense: e.g., /ar-fal-ɣ/ 'I am leaving'; /ar-i-t-fraḥ/ 'he is enjoying'. It is important to note that this affix occurs only with derived stems formed with the morpheme {t} 'habitual'. The exact tense of the form is determined by the context: e.g., /argaz i-bda* ar-i-t-ni/ 'the man started to talk', /argaz ar-i-t-ni/ 'the man is saying, usually says'. When this morpheme occurs after another affix, there is a morphophonemic change so that /ar/>/a/: e.g., /ur-ar-fal-ɣ/>/ur-a-fal-ɣ/ 'I am not leaving'; /is-ar-i-t-fraḥ/>/is-a-i-t-fraḥ/ 'is he enjoying'.

{ra-} occurs with verb stems to form the future tense. It differs from the preceding affix because it may occur either with basic stems or with derived stems: /ra-i-du:/ 'he will go', /ra-i-t-du:/ 'he will be going'. When this morpheme occurs immediately before the stem, it

has the form /rad-/: e.g., /rad-aui-ɡ/ 'I will take'. If another affix occurs between {ra} and the stem, the form /ra-/ is used: e.g., /ra-k-aui-ɡ s-lu*tal/ 'I will take you to the hotel'. When it occurs after {ur-} 'not', there is assimilation so that /ra-/>/a-/: e.g., /ur-ra-i-du:/>/ur-a-i-du:/ 'he will not go'.

{P} is the symbol used for a third temporal affix which differs structurally from the preceding affixes because it involves internal phonemic changes rather than the additon of a prefix. It is used to indicate a completed action. There are several alternants of this morpheme which will be described below.

With the first class of stems, {P} has the form /ø...ø/, i.e., the stem remains unchanged and the pronominal affixes are added: e.g., /bi/ 'cut, cross', /bi-ɡ a-ɡaras s-udar/ 'I crossed the street on foot'; /agug/ 'be far away', /i-agug/ 'he is far away'.

With a second class of stems, this morpheme appears as /a/>/u/. The stems in this class are usually monosyllabic, consisting of /aC/, /aCC/, or /CaC/: e.g., /amz/ 'take', /i-umz/ 'he took'.

With a third class of stems, {P} occurs as /u/>/i/~/a/ The change /u/>/i/ occurs with the morphemes {ɡ} 'I' and {t...t} 'you', while the change /u/>/a/ occurs with the other subjective pronominal affixes: e.g., /du:/ 'go'; /di-ɡ:/ 'I went'; /i-da:/ 'he went'.

With a fourth class of stems, {P} occurs as /i/>/a/. This is similar to the alternant described above, for the change does not occur with the morphemes {ɡ} or {t...t}: e.g., /ri/ 'want'; /t-ri-t/ 'you wanted'; /ra-n/ 'they wanted'.

The modal affixes include the negative, interrogative, subjunctive, and conditional affixes.

{ur-} 'not' is a negative prefix. It occurs with verb stems and the affixes described above. When it occurs with stem to which {P} has been added, certain changes occur in the stem. In those cases in which {P} = /a/>/u/, the same change is found when {ur-} is added. When {P} = ø, there is no change in the stem after the addition of {ur-}. In other cases, however, {ur-} is followed by the change /V>i/: e.g., /du:/ 'go'; /i-da/ 'he went'; /ur-i-di:/ 'he didn't go'.

{is-} is an interrogative prefix which occurs before verbs and any of the affixes described above. It does not occur with any other interrogative affix, however. In addition to being used to form questions, it may also be used to express doubt or astonishment: e.g., /is-t-gi-t a-berani/ 'are you a stranger'; /ur-t-sin-t is-i-ga ɡasa: l'aid/ 'you don't know (that) today is a holiday'.

Both morphemes {is-} and {ur-} may occur independently. In this way they are different from the other verbal affixes. The independent forms in both cases are formed by the addition of /d/. These forms may be classified as particles: e.g., /urd iktab a-i-ga/ 'it is not a book'; /izd kii a-i-ga-n a-barani/ 'are you a stranger'.

{ad-} occurs with verbs and the other inflectional affixes to form a subjunctive or infinitive. When it occurs immediately before any of the pronominal affixes, it has the form /a-/: e.g., /ri-g ad-kru-g iat-lbit/ 'I want to rent a room'; /i-ra a-i-kra iat-lbit/ 'he wants to rent a room'. When it occurs before the morpheme {ur}, it serves to form a negative command: e.g., /ad-ur-t-du-t:/ 'don't go'.

The morphemes {ig} 'if', {lig} 'when', {ma'ala} 'if', {kudna} 'as soon as', {žu} 'ever', and {sul} 'ever again' may be considered members of this same subclass, for they occur in the same environments. The last of the affixes {sul} occurs only with forms containing {ra} 'future'. All of these affixes occur as prefixes, and although there is a slight pause after them so that in some utterances they seem to be words rather than prefixes, it is clear that they must be classified as prefixes because the objective pronominal affixes precede the stem when these forms occur just as they do when other prefixes such as {ra-} and {ur-} occur: e.g., /i-zra*/ 'he saw', /i-zra-k*/ 'he saw you', /lig-k-i-zra*/ 'when he saw you'.

The pronominal affixes may be divided into three groups on the basis of distribution as well as syntactic function. In the first group, B5a, are the subjective affixes. The second group, B5b, consists of direct object affixes. The third group, B5c, includes the indirect object affixes. The morphemes included in each of the three groups are complementary in distribution to the other members of that group, but they may occur with members of either or both of the other two groups.

The members of the first group are: {-g} 'I', {t...t} 'you', {i-} 'he', {n-} 'we', {t...m} 'you' (m. pl.), {t...mt} 'you' (f. pl.), {-n} 'they' (m.), {-nt} 'they' (f.). These morphemes are attached to verb stems, either basic or derived, with any of the affixes described above. The position of the affixes is fixed, but the selection of the affix depends upon the other words in the environment (see Syntax). Before voiceless consonants, {g} >/x/.

The affix {i...n} 'the one who' may be considered a special member of this class. It occurs, like the others, with verb stems and its position is fixed so that it always occurs next to the stem. Its distribution is complementary to the other members of the group, for it does not occur with any other member of the subclass. It differs because its selection does not depend on the other members of the phrase. Moreover, its syntactic function is different, for the form produced by the addition of this morpheme seems to be adjectival rather than verbal. It should be noted that {i...n} may occur as /Ø...n/. The symbol B5ax is used for this morpheme.

The members of the second group, the direct object affixes, are: {i} 'me', {k} 'you' (m. sg.), {km} 'you' (f. sg.), {t} 'him', {t:} 'her', {ag} 'us', {kun} 'you' (m. pl.), {kunt} 'you' (f. pl.), {tn} 'them' (m.),

{tnt} 'them' (f.). They are complementary in distribution, but their position is not fixed. When they occur with a modal affix or any temporal affix except {P}, they are prefixes. In other cases, they are suffixes.

The members of the third group, the indirect object affixes, are: {ii} 'to me', {ak} 'to you' (m. sg.), {am} 'to you' (f. sg.), {as} 'to him~her', {ag} 'to us', {aun} 'to you' (m. pl.), {aunt} 'to you' (f. pl.), {asn} 'to them' (m.), and {asnt} 'to them' (f.). After a vowel, all of these forms have /i/ prefixed. After consonants, they occur as listed above. The position of these affixes is determined by the other morphemes in the word, and in this way they resemble the morphemes of the second group. When they occur with a modal affix or any temporal affix except {P}, they are prefixes. In other cases, they are suffixes.

{C} is the symbol used for the imperative morpheme. There are three alternants of this morpheme: /ø...ø/, /ø...-at/, and /ø...-amt/. The first is a singular form, the second is masculine plural, and the third is feminine plural. Each of the plural forms has an alternant, /ø...iat/ and /ø...iamt/, which occurs after vowels: e.g., /du:/ 'go', /du:-iat/ 'go' (m. pl.), /du:-iamt/ 'go' (f. pl.).

In distribution, this morpheme is equivalent to the sum of B3, B4, and B5a, for it does not occur with any of the members of these subclasses. It may occur with the members of B5b and B5c, however.

3.23 Noun or verb affixes

The third class of affixes includes those morphemes that occur as prefixes or suffixes with either noun stems or verb stems. It is this fact which distinguishes them from other affixes whose occurrence is limited to stems of one class or another.

{d} 'here, this, now' and {n} 'there, that, then' may be considered locatives. They occur as suffixes with nouns and noun substitutes, and in this position they have the forms /-ad/ and /-an/ respectively: e.g., /tigmi-ad/ 'this house'; /i-rgaz-n-an/ 'those men'. When they occur with verbs, they appear as prefixes or suffixes depending upon the other morphemes in the word. With {ra}, {ax}, {ad}, and {ur} they occur as prefixes. In other words which do not contain these morphemes, they occur as suffixes: e.g., /aui-d/ 'bring', /ad-ur-d-aui/ 'don't bring'.

{ma-} 'who, what, anything' is also a member of this class. When it occurs before nouns, it has the form /man/. Before verbs, the form /ma/ is used: e.g., /man-tifii t-ri-t/ 'what (kind of) meat do you want'; /ma-t-ri-t/ 'what do you want'.

The affixes in this class may be found in those words classified as particles. Almost all of the interrogative words contain /ma/ although a more detailed analysis of these words would be necessary to determine the other constituents: e.g., /mani/ 'where'. The same is true

with many adverbs. These may contain the morpheme {d} or {n}: e.g., /ǧilad/ 'now', /ǧilan/ 'then', /ǧid/ 'here', /ǧina/ 'there'.

3.3 Particles

The morphemes classified as particles occur independently without affixes. It is this fact which serves to distinguish them from stems. Interjections, conjunctions, and certain interrogative words are included in this class. It is possible that some of the adverbs have been formed by the combination of two affixes: e.g., /ǧid/ 'here' and /ǧina/ 'there' seem to be the results of adding {ǧ-} 'in' to the morphemes {d} and {n}. The word /ǧasa:/ 'today' may have been formed from {ǧ} 'in', /as:/ 'day' and {d} 'this', for an older form, /ǧasad:/ literally 'in this day', is sometimes substituted for /ǧasa:/.[1]

The description of particles depends on their distribution relative to other words; it will therefore be discussed in the section on syntax (Chapter IV).

3.4 Equations for the Formation of Words

The distribution of morphemes has been included in the description of the individual morphemes. For purposes of simplification, however, a summary is given below. The equations are not intended to indicate the syntactic function of the words, but merely to indicate the morphemic constituents of the words. The letters indicate the classes of morphemes: N = noun stem, V = verb stem, A = noun affix, B = verb affix, C = noun and verb affix. The numerals indicate the subclasses of morphemes, and the subscript indicates the class of word in terms of morphemic components.

$Na + A1 = N_1$	$V + B1 = V_1$
$Na \sim N_1 + A2 = N_2$	$V + B2 = N$
$Na \sim N_1 \sim N_2 + A3 = N$	$V \sim V_1 + B3 = V_2$
$Na \sim N_1 \sim N_2 + A4 = N_4$	$V_2 + B4 = V_3$
$N_3 + A5 = N_4$	$V_2 \sim V_3 + B5a = V_{4a}$
$Na + A6 = \text{Particle}$	$V_2 \sim V_3 + B5ax = V_{4b}$
$Na + C = Na$	$V \sim V_1 + B6 = V_{4c}$
$Nb + A2 = N_2$	$V_4 + B5b = V_{5a}$
$Nb + A3 > A = N_3$	$V_4 + B5c = V_{5b}$

[1] See H. Stumme, Handbuch des Schilhischen von Tazerwalt, p. 121.

3.4

$Nb + A4 = V_4 \sim N_4$

$Nc + Na = N_1 \sim N_2$

$Nc + Nc_4 = Nc_1$

$V_{5a} + B5c = V_6$

$V_{5b} + B5b = V_6$

$V + C = V$

CHAPTER IV

SYNTAX

4.0 Introduction

In considering the syntax of Shilha it is necessary to examine the words described in the previous section, not as isolated units but in terms of their distribution relative to other words in the language. The basic unit for syntactic analysis, therefore, is the phrase. A phrase may be defined as a sequence of morphemes forming one or more words which have a certain interdependence.

4.1 Noun Phrases

The basic noun phrase consists of a single noun stem. This stem may be a member of any of the three subclasses of nouns. When one of the formative affixes is added to a stem that is a member of the first subclass, the word formed may be considered a derived noun stem, for it may be substituted for a basic stem: e.g., /i-zra* afrux/ 'he saw the boy'; /i-zra* t-afrux-t/ 'he saw the girl'. The syntactic symbol N^1 is used for both basic and derived noun stems.

When a noun stem of the first subclass occurs with the possessive morpheme {n-}, a word is formed which may be placed after another noun to construct a sequence which can be substituted for a basic or derived stem: e.g., /agiul i-da: s-suk*/ 'the donkey went to the market'; /agiul u-urgaz i-da: s-suk*/ 'the man's donkey went to the market'. The symbol N^2 is used for this sequence of Na{n-}Na. When the possessive morpheme occurs with a personal pronoun, Nb, the sequence formed occurs as an affix rather than as a separate word. This affix can be substituted for the sequence {n-}Na: e.g., /agiul-n-s i-da: s-suk*/ 'his donkey went to the market'. Because the sequences Na{n}Na and Na{n}Nb are syntactically equivalent, the same symbol N^2 is used for sequences in which either occurs.

When a noun stem of the first subclass occurs with one of the third subclass of noun affixes, a preposition, the resulting sequence may be considered a phrase which may be substituted for a particle but not for a noun stem. This sequence is represented by the symbol N^3. The sequences N^1 and N^2 may be substituted for the noun stem in these utterances: e.g., /i-aui-d rbi'a i-ugiul/ 'he brought grass for the donkey'; /i-aui-d rbi'a i-ugiul-n-s/ 'he brought grass for his donkey'.

The sequence N^3 may also be formed by combining an affix of the fourth subclass with a noun to which the morpheme {n-} has been added: e.g., /iktab i-la igi-n-tbla/ 'the book is on the table' is syntactically equivalent to /iktab i-la g-tigmi/ 'the book is in the house'.

The personal pronouns may also occur with members of the fourth subclass of noun affixes. The resulting sequence, however, differs

syntactically from the sequence N^3. This fact can be seen immediately in the utterances /is-t-ri- a-di-sn/ 'do you want to (go) with them' and /is-t-ri-t a-t-ša-t/ 'do you want to eat'. The sequence /di-sn/ in the first utterance is replaced by a sequence described structurally as V_4. Therefore, the two sequences although structurally different must be syntactically equivalent.

4.2 Verb Phrases

The minimal verb sequence occurring in utterances is V_4, i.e., a basic or derived stem with a temporal affix and a subjective pronominal affix, or a basic or derived stem with the imperative morpheme. These forms serve as the nuclei of phrases for which the symbol V^1 will be used. The presence of the imperative morpheme influences the distribution of other words in the phrase, however, therefore the symbol V^{1a} will be used for those phrases not containing the imperative, and V^{1b} will be used for those in which the imperative morpheme occurs. Utterances such as /i-zra*/ 'he saw'; /ra-t-du-t:/, /ur-i-gi/ 'he is not' may be considered examples of the first type of phrase (V^{1a}). Phrases such as /bi/ 'cut' and /du:-iat/ 'go' are examples of the type V^{1b}. By adding a member of B5b to the sequence V^1, a new word is formed which contains a direct object: e.g., /i-zra-k*/ 'he saw you'; /bi-t/ 'cut it'. The symbol V^2 is used for phrases of this type. If a member of the subclass B5c is added to V^1, however, the sequence contains an indirect instead of a direct object. The symbol V^3 is used for these phrases. When morphemes from B5b and B5c are added to V^1, the sequence formed contains both the direct and indirect object. This type of phrase is represented by the symbol V^4. It is possible to describe the syntactic relationships between nouns and verbs in terms of these four types of verb phrases.

The sequence V^{1a} in addition to the morphemic components of the word itself may also contain a noun or noun phrase ($N^1 \sim N^2$): e.g., /i-zra*/ 'he saw'; /argaz i-zra*/ 'the man saw'; /agiul u-urgaz i-zra*/ 'the man's donkey saw'. Such sequences are syntactically equivalent to V^1. The order of the words may be changed so that the noun phrase may occur after the verb: e.g., /i-zra* urgaz/. If the noun which serves as the nucleus of the noun phrase contains the feminine morpheme {t...t}, there is a subsequent change in the morpheme chosen from B5a: e.g., /t-agiul-t t-zra*/ 'the donkey (f.) saw'. It is this fact which makes it possible to divide stems classified as nouns into two classes which are complementary in distribution, one of which occurs only with the morpheme {i-} 'he'. The other occurs only with the morpheme {t-} 'she'. If the noun serving as the nucleus of the noun phrase contains the plural morpheme {i...n}, there is also a change in the pronominal affix chosen for the verb: e.g., /i-rgaz-n zra-n*/ 'the men saw'. It is possible to state, therefore, that the morphemes classified

as nouns contain two constituents which are repeated in the subjective affixes in phrases of this type. The first constituent G, gender, has two classes: G1 masculine and G2 feminine. The first has the form ∅. The second has many alternants of which the most common is the formative affix {t...t}. Almost all nouns with initial /t/ contain the component G2. With all subjective pronominal affixes except {g} 'I', {t...t} 'you', and {n-} 'we', it occurs as an addition of /t/. With {i-} 'he' this addition of /t/ is coupled with the subtraction of /i/.

The second constituent Y, number, has two classes. The first Y1 'singular' may be considered ∅. The second Y2 'plural' has many alternants, the most frequent of which is the morpheme {i...n} occurring with nouns. With the subjective pronominal affixes, the chief function of Y2 seems to be a change of position of the affix, i.e., suffix to prefix or prefix to suffix, rather than the addition of a given phonemic sequence: e.g., /ur-fi-g/ 'I didn't give'; /ur-n-fi/ 'we didn't give'.

Each phrase of the type V^{1a} must then contain two additional elements G and Y which extend over the noun and the pronominal affix. The utterance /argaz i-zra*/ could then be symbolized structurally as G1Y1 (NV_4) while the utterance /t-i-mgar-in zra-nt*/ would be written G2Y2(N_1V_4).

In phrases of the type V^{1b}, the only noun phrase which may occur without changing the syntactic nature of the sequence is N_5, i.e., a noun stem with the vocative affix.

Sequences of the type V^2 occur in simplest form as V_{5a}. The phrase, however, may consist of $V^1 + N^1 \sim N^2$; e.g., /i-zra* argaz/ 'he saw the man'; /i-zra* agiul u-urgaz/ 'he saw the man's donkey'. Both of these utterances are syntactically equivalent to the utterance /i-zra-t*/ 'he saw him'. It is possible to change the order of the words so that the noun phrase may occur before the verb. In this case, the verb must have the form V_{5a}, and the gender and number of the noun which serves as direct object are repeated in the objective affix: e.g., /a-garas i-bi-t/ 'he crossed the street'; /t-udi-t i-bi-t:/ 'he cut the butter'. When the verb contains any affix except {P} (perfect), a subjective pronominal affix or an affix of class C, the objective pronominal affixes must occur before the stem: e.g., /ur-t-i-bi/ 'he didn't cut it'.

Words which may be classified structurally as V_{5b} have been defined syntactically as sequences of subject, verb and indirect object. The indirect object affix in such a sequence may be replaced by a noun phrase, but in this case, the phrase must be N^3, i.e., a noun with a prepositional affix: /fi-g-as/ 'I gave to him'; /fi-g i-urgaz/ 'I gave to the man'. Since the phrase N^3 includes not only utterances of this type, but all combinations of nouns and prepositional affixes, such sequences as /i-da: s-suk*/ 'he went to the market'; /i-la igi-n-tbla/ 'it's on the table' may be considered examples of this type of phrase.

Words represented by the structural symbol V_6 may be defined syntactically as sequences of subject, verb, direct, and indirect objects: e.g., /i-fa-ias-t/ 'he gave it to him'. A noun phrase of the type N^1 or N^2 may be added to the sequence to serve as subject or direct object, while a noun phrase of the type N^3 may serve as indirect object. The utterance could then occur as /argaz i-fa a-bukal* i-ufrux/ 'the man gave the jar to the boy'. It should be noted that in utterances of this type, the indirect object affix always precedes the direct object affix. After modal or temporal prefixes, both object affixes occur before the stem and the subjective pronominal affix and after the modal or temporal affix: e.g., /ur-as-t-i-fi/ 'he didn't give it to him'; /ra-k-t-i-fa/ 'he will give it to you'.

4.3 Particles

The particles may be divided into classes on the basis of their syntactic functions. The first class (P^1) includes the interjections. These forms can be distinguished from other particles because usually they occur as complete utterances, i.e., between two periods of silence or relatively long duration. Some of the more common members of this subclass are: /iih/ 'yes'; /uhu/ 'no'; /ha/ 'here'. In some utterances they may occur before a noun to which the vocative affix has been added: e.g., /iala a-sidi/ 'I hope so, sir'. In these utterances, the falling tone which characterizes the phoneme /ị/ is present although the pause between the two words may be shortened.

The second class of particles (P^2) includes those which may be classified syntactically as conjunctions. These particles occur between phrases which are usually syntactically equivalent: e.g., /ababur i-safr aškun lukt* t-ikm-as/ 'the ship sailed because the time came to him'. In this utterance the conjunction /aškun/ serves to join the two verb phrases either of which could occur as a complete utterance. Another example is found in the utterance /ur-i-li ruz* uaila t-udi-t/ 'there is neither rice nor butter'. Here, the particle /uaila/ joins the two noun phrases. This particle, like the other members of this class, could not join a verb phrase with a noun phrase or a noun phrase with a verb phrase.

The third class of particles (P^3) includes those which may be classified as adverbs. It is possible that some of these have been formed from other morphemes in the language, but additional historical data would be needed to establish this fact. Usually the particles in this class are substitutable for the sequence N^3: e.g., /ur-i-li g-tigmi/ 'he is not in the house'; /ur-i-li gina/ 'he isn't there'.

The fourth class of particles consists of interrogative words. Almost all of these seem to have {ma} as a constituent. Usually they occur at the beginning of the utterance, but they may also occur between phrases. In this way, they are similar to the particles classified

as conjunctions, but the distribution is different; for the interrogatives may occur between phrases which are not syntactically equivalent: e.g., /manig i-la lktab/ 'where is the book' may occur as /lktab manig i-la/. In the second utterance the interrogative occurs between the two phrases, but the first is a noun phrase while the second is a verb phrase. A conjunction could not occur between two such phrases. There are two restrictions on the position of interrogatives: they may not occur at the end of a sequence of phrases before a long silence that marks the end of a sentence, nor may they occur between words which are members of one phrase. It would be impossible, therefore, to rearrange the words of the utterance cited above to form the sequence: /lktab i-la manig/. If the sentence contained the phrase N^2, the interrogative would not occur between the two words forming this phrase: e.g., /manig i-la lktab n-guma/ 'where is my brother's book' would not occur as /lktab manig n-guma i-la/.

Another class of particles (P^5) includes those that serve as expletives: e.g., /aiad/ 'this is'. The words in this class may be used with noun phrases, N^1 or N^2, to form a sequence which is equivalent to V^2: e.g., /man lukt* aiad/ 'what time is this'; /lukt* lmakla aiad/ 'this is the time of meals'.

4.4 Word Sequence Equations

The following equations are designed to show the relationship between structural and syntactic classes. The capital letters indicate morpheme classes: N = noun, V = verb stem, A = noun affix, B = verb affix, C = noun and verb affix. The numerals and lower case letters indicate subclasses of morphemes: e.g., B5a = direct object pronominal affix that occurs with verbs. The subscript indicates the class of word in terms of morphemic components: e.g., N_3 = a basic or derived noun stem with the possessive affix. The raised numerals indicate the syntactic classes.

WORD SEQUENCE EQUATIONS

Noun Phrases

$N \sim N_1 \sim N_2 = N^1$

$N + V_{4b} = N^1$

$N^1 + N_3 = N^2$

$N^1 + (Nb + A3) = N^2$

$N_4 = N^3$

$N_4 + N^2 = N^3$

$N^1 + P^2 + N^1 = N^1$

$N^2 + P^2 + N^2 = N^2$

$N^3 + P^2 + N^3 = N^3$

$Na + A6 = P^1$

Verb Phrases

$V_{4a} = V^1$

$V_{4c} = V^{1b}$

$N^1{\sim}N^1 + V^{1a} = V^{1a}$

$V_{5a} = V^2$

$N^1{\sim}N^2 + V^{1a} + N^1{\sim}N^2 = V^{2a}$

$N^1{\sim}N^2 + N^1{\sim}N^2 + V^2 = V^{2a}$

$V^{1b} + N^1{\sim}N^2 = V^{2b}$

$V_4 + V_4 = V^2$

$N^1{\sim}N^2 + P^5 = V^2$

$V_{5b} = V^3$

$N^1{\sim}N^2 + V^{1a} + N^3 = V^3$

$N^1{\sim}N^2 + N^3 + V_{5b} = V^3$

$V^{1b} + N^3 = V^3$

$V_5 = V^4$

$N^1{\sim}N^2 + N^1{\sim}N^2 + V^{2a} + N^3 = V^4$

$N^1{\sim}N^2 + V^{1a} + N^1{\sim}N^2 + N^3 = V^4$

$N^1{\sim}N^2 + N^3 + V^{2a} + N^1{\sim}N^2 = V^4$

$V^{1b} + N^1{\sim}N^2 + N^3 = V^4$

$N^1{\sim}N^2 + N^3 + N^1{\sim}N^2 + V^4 = V^4$

4.5 Sentence Structure

The structure of sentences in Shilha may be clearly stated in terms of the word sequence equations given in the preceding section. Any sequence of morphemes occurring after a relatively long period of total silence and having the contour phoneme /‖/ or /|/ may be considered a complete utterance or sentence.

The simplest type of sentence is that consisting of a single word. Some answers to questions may consist of one word, and some exclamations consist of one word. Both occur after a period of silence and contain the contours which indicate sentences. Therefore, they may be considered sentences of this type.

The most common sentence types are those containing a verb phrase. The verb phrase may be V^1, V^2, V^3, or V^4. Any sequence of morphemes which is equivalent to one of these phrases may be considered a sentence; therefore, a sequence consisting of a prepositional affix with a personal pronoun and a noun may be considered a sentence: e.g., /gi-s its/ 'in him sleep'. In this utterance the first word is equivalent to V^1. When the second word is added, the entire sequence is equivalent to V^2 and may be described as a sentence if it occurs between two periods of silence.

Sentences are also formed by using the members of P^2 to connect verb phrases. It is possible, therefore, to have sequences such as $V^1P^2V^1$: e.g., /i-ksim aškun i-ḥma lḥal/ 'he went in because the

weather was hot'. The linking of any sequence of verb phrases will form a sequence which may be considered a sentence. In some cases, the linking is accomplished by mere juxtaposition of the phrases rather than by the use of a particle.

Examples of these various sentence types will be found in the sample texts which follow.

CHAPTER V

TEXTS

5.0 Introduction

The following texts are given as samples of the material on which the preceding analysis is based. The transcription is phonemic; words are separated by a space. Hyphens are used to indicate morpheme boundaries within a word. Two translations are given with each text. The first is literal; the second, idiomatic.

5.1

1. i-ka:tin uš:n d-bu-mhand ga-n i-mdukal.
he-was-then wolf with-porcupine were-they friends.

2. ia-uas: nkr-n. 3. nga-n n-las. 4. laḥ-asn
One-day rose-they. died-they of-hunger. nothing-to them

mat-šta-n. 5. i-nkr bu-mhand. 6. i-na: i-uš:n. 7. grua
what-eat-they. he-stood porcupine. he-said to-wolf. let

a-n-š g-ia-t-t-ibḥar-t. 8. du-n: sinit-sn. 9. afi-n
to-we-eat in-one-garden. went-they both-them. found-they

t-ibḥar-t si-ia-uugab. 10. laḥ-asn manik ad-skar-n
garden with-one-wall. nothing-to them how to-do-they

ad-kšim-n. 11. iat-sat afi-n iat-t-nuk*bi-t. 12. kšim-n
to-enter-they. one-hour found-they one-hole. entered-

gi-s. 13. bda-n ar-šta-n. 14. uš:n ar-i-šta
they in-it. began-they are-eating-they. wolf is-he-eating

ailig i-'amar ahlig-n-s. 15. lig-ra-n ad-fug-n
until he-filled stomach-of-him. when-want-they to-leave-they

i-fug bu-mhand. 16. i-ka*ma uš:n. 17. ur-i-ufi a-i-fug
he-left porcupine. he-stayed wolf. not-he-could to-he-leave

aškun i-bzug uhlig-n-s. 18. i-na:-ias bu-mhand.
because he-is puffed stomach-of-him. he-said-to him porcupine.

19. ka*ma gina arkig-d-i-uška bab n-t-ibḥar-t. 20. i-ngi-k
stay there until-here-he came owner of-garden. he-kill-

si-ukurai. 21. ar-i-ala ušn. 22. ar-i-t-da*lb
ed-you with-stick. is-he-crying wolf. is-he-begging

i-bu-mhand. 23. manik ra-i-skr baš a-i-fug. 24. i-na:-ias
to-porcupine. how will-he-do to to-he-leave. he-said-to

bu-mhand. 25. gun: f-dhar-n-k. 26. talt i-dar-n-k
him porcupine. sleep on-back-of-you. put feet-of-you

s-igːna baš liɣ-d-i-uška bab n-t-ibḥar-t ra-k-d-i-af
to-sky to when-here-he-came owner of-garden will-you-here-he

ɣikina. 27. ra-k-i-luh s-bra.
find like that. will-you-he-throw to-outside

Once the wolf and the porcupine were friends. One day they got up. They were dying of hunger. They had nothing to eat. The porcupine got up. He said to the wolf, "Let's go eat in a garden." The two of them went. They found a garden with a wall. They had no way to get in. (After) one hour, they found a hole. They went in through it. They started to eat. The fox ate until he filled his stomach. When they wanted to go out, the porcupine left. The wolf stayed. He could not go out because his stomach was puffed. The porcupine said to him, "Stay there until the owner of the garden comes. He will kill you with a stick." The wolf started to cry. He asked the porcupine what to do to get out. The porcupine told him, "Sleep on your back. Put your feet in the air so that when the owner of the garden finds you like that he will throw you out."

5.2

1. žha i-zri ia-uas: f-lmʿalm-in. 2. ar-t-ga-n
žha he-passed one-day on-engineers. are-putting-they

zift i-lflaik. 3. i-sak*sa ian gi-sn f-ma-skar-n.
tar to-boats. he-asked one in-them on-what-do-they.

4. i-naːias ar-n-t-ga zift i-lflaik baš a-t-azal-nt
he-told-him are-we-putting tar to-boats for to-run-they

igi-u-aman. 5. liɣ-i-iuuri žha s-tigmi i-dul zift.
on-of-water. when-he-returned žha to-house he-melted tar.

6. i-gi-t i-i-dar-n u-ugiul. 7. liɣ-i-hsu ugiul
he-put-him to-feet of-donkey. when-he-felt donkey

si-l-ḥma i-luar. 8. i-bda* žha ar-i-t-ni: d-ixf-n-s.
with-heat he-ran. he-began žha is-he-saying with-mind-of-him.

9. lmʿalim i-naːːii saḥt.
engineer he-told-me all right.

One day Žha passed some engineers. They were putting tar on boats. He asked one of them what they were doing. He told him, "We are putting tar on the boats so that they will run on water." When he returned home, he melted some tar. He put it on the donkey's feet. When the donkey felt the heat, he ran away. Žha started to say to himself, "The engineer told me the truth."

5.3

1. žha i-zra* iat-tklit lžim'at i-mhdar-n g-ugaras.
   žha he-saw one-time group of students in-street.

2. i-'ard-asn s-tigmi-n-s baš a-di-sn i-širk
   he-invited-to them to-house-of-him for to-with-them he-share

iminsi. 3. na:-n-as iala*. 4. i-kšm s-t-a-mǧar-t
supper. said-they-to him all right. he-entered to-wife-of-him

-n-s i-na:-ias. 5. žužad: iminsi. 6. ha:ti. 7. dar-ng ingbu-in.
he-told-her. prepare supper. see. to-us guests.

8. t-na:-ias ur-i-li ruz* uaila t-udi-t. 9. i-ktid
she-told-him not-he-is rice nor butter. he-remembered

žha ur-dar-s ma-i-s-nua. 10. i-asi ak*sari i-xuan
žha not-to-him what-he-cause-cook. he-took bowl he-(who)-

i-kšim s-i-mḥdar-n. 11. i-na:-iasn imil ma'ala
is empty he-entered to-students. he-told-them if if only

dar-i ruz* t-udi-t ra-iauun-t-d-gi-g g-uk*sari-ad.
to-me rice butter will-for-you-it-here-put-I in-bowl-this.

12. i-fl-tn i-du:.
he-left-them he-went.

Once Žha saw a group of students in the street. He invited them to his house to share supper with them. They said, "All right." He went in and told his wife, "Prepare supper. See, we have guests."

She said to him, "There is neither rice nor butter." Then Žha remembered that he had nothing to cook.

He took an empty bowl in to the students and said to them, "If only I had some rice or some butter, I would put it in this bowl for you." Then he left them and went away.

5.4

1. si-brahim i-makl* si-muḥmad. 2. i-na-ias
   Mr.-Brahim he-met Mr.-Mohammed. he-told-him

a-salamu-'alai-kum. 3. i-žaub-as si-muḥmad ua-'alai-
o-peace-on-you. he-answered-him Mr.-Mohammed and-on-

kum usalam. 4. i-sauul si-brahim. 5. i-na:-ias mani
you peace. he-talked Mr.-Brahim. he-said-to him where

t-ki-t gasa:? 6. i-nga-iag umrgi-n-k. 7. i-na:-ias
you-are today? he-killed-us absence-of-you. he-told-him

si-muḥmad ima-kii. 8. manik ad-ga-n taruan-n-k
Mr.-Mohammed and-you. how are-they children-of-you

d-sa*ḥt-n-k? 9. i-na:-ias si-brahim labas dar-ng.
with-health-of-you? he-told-him Mr.-Brahim nothing bad to-us.

10. ma'ala i-nga-iag lgla li: la-n g-lma'ašt. 11. si-
only he-killed-us. price which is in-living. Mr.-

muḥmad i-na:-ias ma-ra-iak-ni-g? 12. kulu gaiad li:
Mohammed he-told-him what-will-you-say-I? all this which

i-la-n sabab-n-s klt* u-unzar.
is cause-of-him need of-rain.

Mr. Brahim met Mr. Mohammed. "Hello," he said to him.

Mr. Mohammed answered, "Hello to you."

Mr. Brahim kept talking. "Where were you today?" he said. "We missed you."

Mr. Mohammed said, "And how are things with you? How is your family? How is your health?"

"Fine," answered Mr. Brahim. "But the cost of living is killing us."

"What can I say?" said Mr. Brahim. "All of this is caused by the lack of rain.

5.5

1. i-zra* ia-uas: g-suk* ia-ufulus ar-i-nza sin-d-
he-saw one-day in-market one-rooster is-he-selling two-with

mrau n-rial. 2. i-la g-unsk u-utbir. 3. i-na: d-ixf-n-s
ten of-dollars. he-is in-size of-pigeon. he-said with-mind

i-gula suk* i-i-fulus-n. 4. sbaḥ ra-d-aui-g
of-him he-is high market for-chickens. tomorrow will-here-

afulus li: dar-ng. 5. i-'adl-n. 6. shaḥ-an
carry-I rooster which to-us. he-is good. tomorrow-that

i-aui-d afulus s-suk*. 7. i-na: is-ra-t-i-znz
he-carried-here rooster to-market. he-said whether-will-him-

si-taman i-mkur*-n. 8. i-gi-t g-adlalt.
he-cause-sell with-price he(who)-is big. he-put-him in-auction.

9. ur-as-d-i-aui bla sin-d-mrau lgušt i-ar:
not-him-here-he-carry only two-with-ten cents he-angered

u-fka*'u. 10. i-na: i-li-m-suk*-in. 11. sak*sa-g mata gaiad
poor man. he-said to-marketers. ask-I what this

t-skar-m? 12. idgam zri-g ia-ufulus. 13. i-la g-unsk
you-do? yesterday saw-I one-rooster. he-is in-size

u-utbir i-sbg-n. 14. i-nza si-sin-d-mrau
of-pigeon he(who)-is-painted. he-sold with-two-with-ten

n-rial 15. kraigat ian gigun i-zaid g-taman-n-s.
of-dollars. each one in-you he-advanced in-price-of-him.

16. afulus-ad-inu i-taf laluuan ugar n-gua-li:
rooster-this-of-me he-has colors majority of-the one-who

idgam. 17. i-zigz s-dar-s ia-u-msuk*. 18. i-na:-ias
yesterday. he-walked to-him one-marketer. he-told-him

kii t-nufl-t. 19. ur-t-sin-t ualu. 20. afulus li
you you-are crazy. not-you-know nothing. rooster which

n-sag idgam ur-i-gi afulus i-sbg-n. 21. i-ga
we-buy yesterday not-he-is rooster he(who)-is-painted. he-is

bab-aurgiu li: i-t-ʿauud-n aual n-binadm. 22. i-žaub-as
owner of-green who he-recites talk of-humans. he-answered-

u-šib-an ig-a-saual guan guad ar-i-t-xam: bzaf:.
him grayed-that if-is-talk that one this one is-he-thinking much.

One day, he saw a rooster for sale in the market for twelve dollars. He was the size of a pigeon. He said to himself, "The market price for chickens is high. Tomorrow I will bring the rooster we have. He is a good one."

The next day he brought the rooster to the market. He thought that he would sell him if the price was high. He put him on sale, but he didn't bring him twelve cents. The poor man became angry. He said to the market people, "What are you doing? Yesterday I saw a rooster the size of a painted pigeon, and he sold for twelve dollars. Each one of you raised his price. This rooster of mine has more colors than that one had yesterday."

One of the market people went to him and said, "You are crazy. You don't know one thing. The rooster we were buying yesterday was not a painted rooster. He was a parrot that could repeat the talk of human beings."

"If that one talks, this one thinks a lot," answered the old man.

VOCABULARY

The vocabulary, which follows, contains words used by the informant in two or more utterances. The class of each word is indicated by the abbreviation immediately following it. The gender of nouns is given as well as the plural form. The perfect, negative, and habitual forms of verbs are given when a phonemic change occurs. In cases where the perfect and negative forms are phonemically the same as the stem, only the habitual form is given. When all four forms are the same, only the stem is given.

The following abbreviations are used:

A	Noun affix	coll.	collective
B	Verb affix	m.	masculine
C	Noun and Verb affix	f.	feminine
N	Noun stem	h.	habitual
P	Particle	n.	negative
V	Verb stem	p.	perfect
sg.	singular	intr.	intransitive
pl.	plural	tr.	transitive

CHAPTER VI

VOCABULARY

a- B2 ⁴ (nominalizer)
a- B3 (alternant of ad-)
abagug N, m. (pl. ibugag) a > u wolf
abgar N, m. (pl. ibgarn) a > u cattle merchant
abgaž N, m. (pl. ibgažn) a > u acrobat
abhat N, m. (pl. ibhatn) a > u investigator
abidar N, m. (pl. ibidarn) a > u lame man
abirah: N, m. (pl. ibirah:n) a > u town crier
abi'ašarai N, m. (pl. ibi'ašarain) a > u huckster
abkal* N, m. (pl. ibkaln) a > u merchant, shopkeeper
ablad* N, m. (pl. iblad*n) a > u stone slab
ablinka N, m. (pl. iblankiuin) a > u snake
abnai N, m. (pl. ibnain) a > u builder, mason
abran N, m. (pl. ibran) a > u wildcat
abra:ni N, m. (pl. ibran: ~ ibra:nin) a > u stranger, foreigner
abrbri N, m. (pl. ibrabrin) a > u Berber
abubu N, m. (pl. ibuban) a > u penis
abukad* N, m. (pl. ibukad*n) a > u blind man
abukal* N, m. (pl. ibukal*n) a > u jar
abulis N, m. [Spanish, policía] (pl. ibulisn) a > u police
abxar N, m. (pl. ibxarn) a > u burner of incense
ad- B3 (modal affix = subjunctive)
-ad C this
adad* N, m. (pl. idad*n) a > u finger
adag N, m. (pl. adagn) a > u bush
adal N, m. (pl. adaln) a > u mantle
adan* N, m. (pl. adan*) a > ua night
adar N, m. (pl. idarn) a > u foot
adbag N, m. (pl. idbagn) a > u tanner
adgag N, m. (pl. idgagn) a > u goldsmith, silversmith
adif N, m. a > ua marrow
adil* N, m., pl. grapes
ia-uaka* u-adil* one grape
adis N, m. (pl. idasn) a > u stomach
ad*n V (p. ad*n; n. id*n; h. tdi*n) be sick, ail
adrar N, m. (pl. idrarn) a > u mountain
adu* N, m. a > u odor, smell
adud* N, m. (pl. idu*dan*) a > u finger
(alternant of adad*)
aduku N, m. (pl. idukan) a > u shoe

adžar N, m. (pl. adžarn) a > ua neighbor
afasi N, m. a > u right side~hand
afa:si N, m. (pl. ifa:sin) a > u person from Fez
afi V (p. ufa; n. ufi; h. tafa) can, find
afka*'u N, m. (pl. ifka*'an) a > u poor man
aflah N, m. (pl. iflahn) a > u farmer
afrux N, m. (pl. ifrxan) a > u boy
afud N, m. (pl. ifadn) a > u knee
afulus N, m. (pl. ifulusn) a > u chicken
afunas: N, m. (pl. ifunas:n) a > u ox
afus~afus: N, m. (pl. ifasn~ifas:n) a > u hand, handle
agaiu N, m. (pl. iguia) a > u head
agagn N, m., pl. thunder
agarson N, m. (pl. agarsonat) waiter
agdi* N, m. (pl. igda*~igdan*) a > u hole
agi V (p. ugi; n. ugi; h. tagi) refuse, be unwilling
aglid: N, m. (pl. igldan) a > u king
agmar: N, m. (pl. igmar:n) a > u horse
agru N, m. (pl. igra) a > u frog
agudi N, m. (pl. iguda~igudan) a > u pile, heap
agudid* N, m. (pl. igudad*) a > u bird
agug V be far away
agul V (p. ugil; n. ugil; h. tagul) hang
agurn N, m., sg., pl. a > ua flour, meal
aguuad N, m. (pl. iguuadn) a > u guide
agzar N, m. (pl. igzarn) a > u butcher
agžif: N, m. (pl. igažaf:) a > u palm tree
ag B5c to us
agad* N, m. (pl. igad*n) a > ua goat
aganim N, coll. a > u cane, reed(s)
agaras N, m. (pl. igarasn) a > u street
aggumi N, m. (pl. iggumitn) a > u hall (in urban areas); stable (in rural areas)
agiul N, m. (pl. igial) a > u donkey
agrum N, m., coll. a > u bread
agzaifu N, m. (pl. igzaifa) a > u tall man
aḥanu N, m. (pl. iḥana) a > u room
aḥdad N, m. (pl. iḥdadn) a > u blacksmith
aḥlig N, m. (pl. iḥalgan) a > u stomach
aḥmal N, m. (pl. iḥmaln) a > u porter
aḥžam N, m. (pl. iḥžamn) a > u barber
aia P[1] Oh!
aiad P[5] this is, the fact is this
aian P[5] that is, the fact is that
aidi N, m. (pl. idan) a > u dog

ailis N, m. (pl. isan) a > ua horse, stallion
ailig P^2 until
aiur N, m. (pl. aiurn) a > ua moon, month
ak B5c to you (m., sg.)
aka* N, m. (pl. ikan*) a > ua nut, kernel
akal N, m. (pl. ikain) a > ua earth, ground, soil
akidar N, m. (pl. ikidarn) a > u draft horse
akitar N, m. (pl. ikitarn) a > u horse
akm B5c to you (f., sg.)
ak*ndar N, m. a measure, 100 kilograms
akr V (p. ukr; n. ukr; h. takur) steal
akrai N, m. (pl. ikrain) a > u renter, landlord or tenant
aksar N, m. a > u ascent, climb
ak*sari N, m. (pl. ik*sara) a > u bowl, dish
akšud* N, m. (pl. ikšud*n) a > u stick
ak*ta' N, m. (pl. ik*ta'n) a > u pirate, robber (insult)
aku*ri N, m. (pl. iku*ran) a > u fig
al V (pl. ul; n. ul; h. tal) raise
alahad P^1 that is enough
alim N, m., coll. a > u/a > ua hay
aman N, m., pl. a > ua water
amarikan N, m. (pl. imarikanin) a > u American
amdakul N, m. (pl. imdukal) a > u friend
amdus: N, m. (pl. imduz:n) a > u dump, rubbish heap, compost pile
amgar N, m. (pl. imgarn) a > u sheik
amgarbi N, m. (pl imgarbin) a > u Moroccan (to other Moroccans); stranger (to non-Moroccans)
amhdar N, m. (pl. imhdarn) a > u student
amksa N, m. (pl. imksaun) a > u shepherd
ams:mar N,m. (pl. ims:marn) a > u nail
amsxar N, m. (pl. imsxarn) a > u waiter
amxzni N, m. (pl. imxaznin) a > u police
ams V (p. umz; n. umz; h. tamz) take, sieze
andalab N, m. (pl. indalabn) a > u beggar
anil N, m., coll. blueing
anu N, m. (pl. una) a > ua well
anzar N, m. (pl. inzarn) a > u rain
anžar N, m. (pl. inžarn) a > u carpenter
ar- B3 (progressive tense prefix)
ar: V become angry
aram N, m. (pl. iraman) a > u camel
arba'a Nc four
arfak N, m. (pl. irfakn) a > u caravan
argan N, m. (pl. argan:) a > u kind of tree
argaz N, m. (pl. irgazn) a > u man, husband
arkig- B4 until

artl N, m. (pl. irtaln) 1/2 kilogram
arud V be clean
aru*mi N, m. (pl. iru*min) ε > u Christian, European
a: B5c to him, to her
as V (p. us; n. us; h. tas) tie, bind
as: N, m. (pl. usan:) a > ua day
asalamu'alaikum Hello
as:ardun N, m. (pl. is:ardan) a > u mule
asaru N, m. (pl. isura) a > u ditch
asfaž N, m. (pl. isfažn) a > u baker
asi V (p. usi; n. usi; h. tasi) carry
asif N, m. (pl. isafn) a > u river
asimid* N, m. (pl. ismdan) cold, wind
asi*ud* N, m. (pl. isi*ud*n) a > u hunter, fisherman
askiu N, m. (pl. askiun) a > u horn of an animal
askrz N, m. (pl. iskraz) a > u plow
aslim N, m. (pl. islman) a > u fish
asm N, m. (pl. asman) a > ua lightning
asn B5c to them (m.)
asnt B5c to them (f.)
asnus N, m. (pl. isnas) a > u young donkey
asuguas N, m. (pl. isuguasn) a > u year
asuk: N, m. (pl. isu:ka) a > ua street, road
(see tasukt:)
ašfar N, m. (pl. išfarn) a > u thief
ašib N, m. (pl. išuban) a > u he who is gray, old man
ašifur N, m. (pl. ašifurat) a > u chauffeur
ašk V (p. uška; n. uški; h. tašk) come
ašku P2 because
ašuari N, m. (pl. išuarin) a > u saddle bag
atai: N, m., coll. tea
at*bib N, m. (pl. it*bibn) a > u doctor
atbir N, m. (pl. itbirn) a > u pigeon
atlbax N, m. cook
at*ma N, m. (pl. it*man) a > u greedy person
aturdi N, m. back
aual N, m. speech, talk
aui V (p. iwi; n. iwi: h. tawi)
auid bring
auin take
autil N, m. (pl. iutal) a > ua hare, rabbit
aun B5c to you (m., pl.)
aunt B5c to you (f., pl.)
axbaz N, m. (pl. ixbazn) a > u baker
axdam N, m. (pl. ixdamn) a > u hotel employee, laborer

axdar N, m. (pl. ixdarn) a > u greengrocer
axraz N, m. (pl. ixrazn) a > u shoemaker
azalim N, m., coll. onion
  iat-tazalimt one onion
azar: N, m., coll. hair
azgr N, m. a > u bull
azigzau N, m. green, blue
azl V (p. uzl; n. uzl; h. tazal) run
azlmad N, m. (pl. izlmadn) a > u left side
azru N, m. (pl. izran) a > u stone
azugag N, m. (pl. izugagn) a > u red
azur N, m. (pl. izurn) a > u roof
až V (p. užaj n. uži; h. taža) permit, let
a'aba V play a trick, dupe
a'ak* V remember
a'akaz N, m. (pl. i'akazn) a > u cane
a'aluž N, m. (pl. i'alaž) a > u calf
a'aram N, m. (pl. i'aramin) a > u pile (used as a measure)
a'askri N, m. (pl. i'askrin) a > u soldier

bab N, m. (pl. idbab) master, owner
baba N, m. (pl. idbaba) my father, my parents
  (this word is used only with the possessive pronouns.)
babargiu N, m. (pl. idbabargiu) parrot
babifarḥ N, m. (pl. idbabifarḥ) enjoyer
babihamum N, m. (pl. idbabihamum) worrier
babihana: N, m. (pl. idbabihana:) rester
babludu* N, m. (pl. idbabludu*) bather
babižuuab N, m. (pl. idbabižuuab) answerer
babur* N, m. (pl. babu*rat) ship
babulad* N, m. (pl. idbabulad*) stone owner
bag~bg N, m. (pl. idbag) paint
bain V (h. tbain) be clear, appear
baki* V crack (intr.)
balk V clear away, get out
bar N, m. (pl. barat) bar, cafe
bard: V (p. bird:; n. bird:; h. tbar:ad) make cool
brm: V (p. brm:; n. brm:; h. tbaram:) turn around
bas~ba?as sorrow, trouble
  labas dar-i I am well
  ur labas dar-i I don't feel so good
baš P[2] in order to
baš:r V (h. tbaš:r) give good news
batata N, m., sg. and pl. potato
ba'ada P[3] then, hereafter

bdu V (p. bda; n. bdi; h. tbda) begin, start
bdu* V (p. bda*; n. bdi*; h. ata*:) cut, divide
bdl V (p. bdl; n. bdil; h. tbdal) change
bgaiž N, m. (pl. ibgaižn) acrobatics
bhara P^3 too much, very
bḥ(a)ra P^3 just now
bḥat V (p. bḥat; n. bhait; h. tbḥat) investigate
bi V cut, cross
bid:~bid V (h. bdid~tbdad) stand
bida* P^3 always
bilag V (p. bilag; n. bilig, h. tbilag) deliver
bird V (h. tbirdad) be cool
bitlžan N, m., coll. and pl. eggplant
bku* V (p. bka*; n. bki*; h. tbka*) remain
bla P^2 without, only
bl:ati N. slowness
blu V (p. bla; n. bli; h. tblu) be old, grow older (n.)
bnadm N, m., coll. (pl. bunadam) human
bnu B (p. bna; n. bni; h. bna:) build
bra N. outside
brahim Abraham
bri V (h. tbrai) rub, grind, wound
brm V (p. brm; n. brim; h. tbram) roll, turn, twist (tr.)
bsaḥtk P^1 enjoy it~you're welcome~good luck
bu- A1 owner of
bublad* N, m. (pl. idbublad*) owner of stone
bufarḥ~bufraḥ N, m. (pl. idbufarḥ) enjoyer
bufugus N, m., coll. dates
buizgarn N, m. (pl. idbuizgarn) cattle owner
bukd* V (h. bukad*) be blind
bulhamum N, m. (pl. idbulhamum) worrier
bulhana: N, m. (pl. idbulhana) rester
buludu* N, m. (pl. idbuludu*) bather
bulu*tal N, m. (pl. idbulu*tal) hotel owner
bumhand N, m. (pl. idbumhand) porcupine
bxar V burn incense
bzaf: Nc much
bzig V (h. tbzag) be puffed, wet, angry
bziz N, m., coll. force
bž V (p. bž; n. biž; h. tbž) crush

d C (emphatic affix)
(with nouns a prefix; with verbs a suffix)
d- A4 with
-d C (see -ad) here, now, this

dbr: V (p. dabr:; n. dabir:; h. tdabar:) lock for
dada N, m. (pl. idada) grandfather
(may be used only with possessive pronoun)
dag P3 again
da*lb V (p. da*lb; n. dalib; h. tda*lab) ask for, beg
da*lm N, m. (pl. du*lam) unjust person
da*mn N (pl. ida*mn) guarantor
da*mant N (pl. ida*mantn ~ dmanat) guarantee
da*mr N, m. (pl. ida*mrn) breast
dar A4 to, at
daua V (h. tdaua) cure
d:bart N, f. (pl. dbrat) sore
dbliž N, m. (pl. dbalž) bracelet
dbg N, m. (pl. dbag) tanning fluid
dbr* V (p. dbr*; n. dbir*; h. tdbar*) do something without help
dbr V (p. dbr; n. dbir; h. tdbar) injure
dgul N, m. (pl. dgal) badness, affliction
dhar* V (h. tdhar*) appear
dhar N, m. (pl. dhur*) back
dhaš V (p. dhaš; n. dhiš; h. tdhaš) become dizzy, faint, nervous, frightened
dhašt N, m. sickness
dhb N, m. gold
daf*: N, m. (pl. difan) guest
di V (h. tdi) cover
diah N, m. (pl., f. tidiahin) watermelon
dm V (n. dim; h. tdm) sink, dive
dn:* V (p. dna*; n. dni*; h. tdnu*) think
d*ni V (h. td*ni) be fat, thick, become fatter (h.)
dr* V (p. dr*; n. dir*; h. tar*) fall, slip
dr: V (h. tdr:) remain alive
drf V (p. drf; n. drif; h. tdaraf) be handsome, polite, pretty (of children)
držt N, f. (pl. druž) step
dru V (p. dra; n. dri; h. tdru) 1) be deep, become deeper (h.)
2) join
druiš N, m. (pl. drauš) poor man
drus V (h. tdrus) be little, be small (quantity)
du A5 under
du: V (p. da:; n. di:; h. tdu:) go
dua N drug, medicine
dub V (h. tduuab) melt (tr. and intr.)
duhur* N afternoon prayer
dunit N world
du*ru* V (p. du*ru*; n. du*ri*; h. tda*ru*) injure, harm, pain

dux V (h. tduuax) become sick, dizzy
dužnbir N December
dzirt N, f. (pl. tidzirin) island
džaḥad V (p. džaḥad:; n. džaḥid; h. džaḥad:) bet, contradict
d'a V pray for ask, plead

f- A4 for, on, through
fad N thirst
farḥ V (h. tfarḥ) enjoy, celebrate
fark*: V (p. furk*:; n. furik*:; h. tfarak*:) separate
farta*tu* N (pl. idfarta*tu*) butterfly
fars V slash
farž: V (p. furž:; n. furiž:; h. tfaraž) gaze at
fdaḥ* V ridicule, gossip about
fg V (p. fug; n. fag; h. tfag) go out
fhm V (p. fhm; n. fhim; h. tfham) understand
fi V (p. fa; n. fi; h. tka) give
fis: V (h. tfsas) be quiet
fil- A4 (see f-)
fl V (h. tfal) leave (tr.)
fla:iu N mint
flḥ V (h. tflaḥ) grow, succeed (impersonal)
frd V (h. tfrad) change
fraḥ V (see farḥ)
frank N, m. (pl. frankat) franc
fsi V untie, melt, open (a package)
fsr V (p. fsr; n. fsir; h. tfsar) spread out
fsir V spread out to dry
fsus V (h. tfsus) be light, soft; become lighter, softer (h.)
ftl V (p. ftl; n. ftil; h. tftal) roll (tr.)
fuks* N, m., sg. and pl. bug
fuku: V (p. fuka:; n. fuki:; h. tfuku:) separate, release
fulki V be beautiful

ga V (p. ga; n. gi; h. ga) become, be, put on
gabl V (p. gabl; n. gabil; h. tgabal) watch
gada V be equal to, be straight (in comparison to)
gal: V (p. gula:; n. gula:; h. tgala:) swear
gam: V (p. gum:; n. gum:; h. gama:) be unable to
gaur V (p. gauar; n. gauir; h. gauar) sit
gdu: V (p. gda:; n. gdi:) be similar to be enough
gi- A4 (alternant of g-)
gilb V (p. gilb; n. glib; h. tgilab) turn around (tr., intr.)
gli V lead
gmr V (p. gmr; n. gmir; h. gumur ~ gumar) chase, hunt
gnu V (p. gna; n. gni; h. tgnu) mend

gr V (p. gr; n. gir; h. gar) touch
gru V (p. gra; n. gri; h. tgru) pick up
gru: V (p. gra:; n. gri:; h. tgra) be last
gudm: V (p. gudm:; n. gudim:; h. tgudam:) turn over (tr.)
guma N, m. (pl. aitmatn) my brother
(may be used only with possessive pronouns)
gun V (p. gun; n. gin; h. tgun) sleep
gut V be abundant, accomplish much
guz V descend
gzr V (p. gzar; n. gzir; h. tgzar) butcher
gzul V (h. gzal) be small, short

g- A4 in, at
-g B5a I
gašu: V (p. gaša:; n. gaši:; h. tgaša:) become faint, get dizzy
gaiad Nb this which
gaian Nb that which
gaili Nb what, which
gakudan P^3 from time to time, then
gars V (p. gurus; n. guris; h. kars*) slaughter
gasa: P^3 today
gaz V (h. kaz*) bury
gfr V (p. gfr; n. gfir; h. tgfar) forgive, relent, be merciful
gid P^3 here
gikina P^3 in that way, so
gilad P^3 now
gilan P^3 then
gina P^3 there
giud* P^3 at night
giuran P^3 over there
gml V (p. gml; n. gmil; h. tgmal) be musty, smell mouldy
gmu V (p. gma; n. gmi; h. tgmu) paint, be painted
gnu: V (p. gna:; n. gni:; h. tgnu:) be rich, become richer (h.)
gr V (p. gra; n. gri; h. k*ra) read, call out
grua N, m. cold (disease)
gruah V let, allow
gua Nb the one
guali Nb the one who
gui Nb these
gula V (n. guli; h. tgulu) be high
guli V (h. ak*lai) climb, boil
guni: V sing
gunšk Nc as big as
gur* V (h. tkur*) be hard, get hard (h.)
gu*ru V (p. gu*ra; n. guri: h. tgara) deceive, cheat

ǧuš V be clean
ǧušt N August
ǧušu V (p. ǧuša; n. ǧuši; h. tǧušu) cheat, deceive
ǧu*zan V (h. tǧu*zin) be right, tell the truth
ǧzif V (h. tǧzif) be tall

ha P^1 see, look, here
hadr V be present
hakak N force
hali P^3 only
han V (p. hna; n. hni; h. thnu) be quiet
har V (h. thar) tickle
harhar V (h. tharhar) bray
harma N, m. (pl. idharma) clown
hati P^5 here is
hbil V (h. thbil) become silly
hdn V (h. tahdn) be quiet
hdu V (p. hda; n. hdi; h. thda) present, give
hindiz V (h. thndaz) calculate
hmim V (h. thmam) worry
hnu: V (p. hnu:; n. huni:; h. thanu:) rest
huul V be troubled
hžm V (p. hžm; n. hžim; h. thžam) invade

ḥabaršad N, coll. spice
ḥakan* P^3 perhaps
ḥalil V (p. ḥulal; n. hulil; h. tḥalal) beg, request
ḥal:s V (p. ḥal:s; n. halis:; h. tḥalas:) saddle
ḥamam V (n. ḥamim; h. tḥamam) bathe
ḥamu V (p. ḥama; n. ḥami; h. tḥamu) protect
ḥana N dear
ḥanu: V (p. ḥana:; n. hani:; h. thana:) pity
ḥarar V (p. ḥurur; n. ḥurur; h. tḥarar) free, release
ḥarg V (p. ḥarg; n. ḥirg; h. tḥrag) burn (tr. and intr.)
ḥarir N, m. silk
ḥark: V (h. tḥarak:) shake, stir, move (tr. and intr.)
ḥarm V (p. ḥarm; n. hirm; h. harm) be forbidden
ḥarš V (p. harš; n. hirš; h. thraš) be sharp, be intelligent
ḥaru: V (p. ḥara:; n. ḥari:; h. tḥaru:) be tough, bitter, strong, hard to convince, hard working
ḥarz V (p. ḥarz; n. ḥirz; h. tḥraz) endure
ḥbu V (p. ḥba; n. ḥbi; h. thaba) cover
ḥdad V forge
ḥdr V (h. tḥdar) be low
ḥdu* V (p. ḥda*; n. ḥdi*; h. tḥda*) hide
ḥfu V (p. ḥfa; n. ḥfi; h. tḥfu) be dull; become duller (h.)

ḥiu V (n. ḥii; h. ṯḥia) live
ḥilu: V (p. ḥila:; n. ḥili:; h. ḥila:) be permitted
ḥkm V (p. ḥkm; n. ḥkim; h. ṯḥkam) judge
ḥma V (p. ḥma; n. ḥmi; h. ṯḥma) be hot
ḥmil: V (p. ḥaml:; n. ḥamil:; h. ṯḥamal:) load, carry, endure
ḥram N (pl. ḥarima) dance
ḥsa V (p. ḥsa; n. ḥsi; h. ṯḥsa) feel
ḥsab N, m. (pl. lḥsabat) amount, sum
ḥsu: V (p. ḥsa:; n. ḥsi:; h. ṯḥsa:) memorize
ḥta P^2 also

i- A4 to, for
i- B5a he
i B5b me
i-n A2 (plural affix)
i-n B5a the one who
iala: P^1 hurry up
iala* P^1 certainly, yes, all right, that's good
-iamt B6 imperative (f., pl.)
ian Nc, m. one
iat Nc, f. one; anything, nothing (with negative)
-iat B6 imperative (m., pl.)
ibrž N, m. (pl. ibržn) feather
ibaun N, m. beans
iblis N, m. devil
ibril N April
ibrir N February
ibrin N, m. meal, ground corn or wheat
ibxu*šn N, pl. insect
id* N, m. (pl. adan*) night
idamn N, m. blood
idgam P^3 yesterday
idla N, m. black
ifis N, m. hyena
ifr N, m. (pl. ifraun) leaf
ifrurain N, m. crumbs
ifrg N, m. (pl. ifrgan) wall of thorns, hedge
igi A5 on top of
igigil N, m. (pl. igugal) orphan
igiz N, m. (pl. igizn) small camel
iglgiz N, m. (pl. iglgizn) beetle
iglin N wretch
(apparently formed from an obsolete verb stem)
ig:na N, m. (pl. idgi:na) sky
igždi N, m. tree trunk
(alternant of agzdi)

iɣ B4 if
iɣd N, m. ashes
iɣil N, m. (pl. iɣaln) cloth measure = the distance from elbow to tip of middle finger
iɣurad* N, m. shoulders
ilnair N January
ilahi P1 God help me!
ilf N, m. (pl. ilfan) hog
ili V (p. la; n. li) be (location)
ilis N, f. (pl. istis) daughter
ilm N, m. (pl. ilmaun) leather
ima- P2 and
imiɣ: N, m. (pl. imiɣn) battle
imik Nc a little
imil P2 but, if
imimn N, m. sweetness
iminsi N, m. (pl. iminsauun) supper
imkli N, m. (pl. imklaun) lunch
imlal N, m., coll. sand
imzdi N, m. (pl. imzdan) guest, visitor
ina N, f. my mother
(this word is used only with possessive pronouns)
ini V (p. na:; n. ni:; h. tni) say
ingbi N, m. (pl. ingbuun) guest
inšala: P1 I hope so
ird V (p. arud; n. arud; h. tarud) be clean
irg N, m. (pl. irgan) nut shell
is- B4 (interrogative affix)
ism N, m. name
itri N, m. (pl. itran) star
its N, m. sleep, drowsiness
iuis N, m. (pl. taruans) son
iuisnsukt* N, m urchin, tramp
iuisnxali N, m. cousin
iuliusa N July
iuniuh N June
ixf N, m. (pl. ixfauun) head, mind, self (with possessive pronoun)
ixs N, m. (pl. ixsan) bone
izd P5 (interrogative particle)
izi N, m. (pl. izan) fly
iziki: N, m. (pl. izakan) sparrow
izimr N, m. (pl. izamarn) ram
iznak* N, m., pl. streets
izri N, m. glance
iž'ad* N, m. clothing (s. až'ud = rug)

k B5b, m., sg. you
k V (p. ka; n. ki; h. ka:) exist, pass
ka*bl V (p. ka*bl; n. ka*bil; h. tka*bl) look at, look after
ka*du*: V (p. ka*da*:; n. ka*da*:; h. tkada*:) satisfy
kafai N, m. (pl. kafaiat) cafe, bar
ka*ma~k'a*ma V remain, stay
kan* V close
kanun N, m. (pl. ikanin) fireplace
k*da'* V (h. tk*da'*) rob, steal
kdu* V (p. kda*; n. kdi*; h. kda*) sniff, smell
kdub N, m. lying
kfu N, m. (pl. kfin) coffin
kid V (p. kad; n. kid; h. tkad) visit
kii Nb, m., sg. you
kim V (h. tkim) beat, hit
kimi Nb, f., sg. you
kml V (p. kml; n. kmil; h. tkmal) finish, end (tr. and intr.)
kl* V wait
km B5b, f., sg. you
km V (p. kma; n. kmi; h. tkma) smoke (tobacco)
knu V bend, stoop
kra Nc some, any
krad* Nc three
kraigat Nc everyone
krm V (h. tkrm) be cold, become colder (h.)
kru V (p. kra; n. kri; h. tkru) rent to, rent from
krz V (p. krz; n. kriz; h. tkraz) cultivate
ks~kis V (p. ksa; n. ksi~kis; h. ksa:) take off, pull off, cut off
ksa: V graze
k*sd* V (p. k*sad*; n. k*sad*; h. tk*sad*) go toward, approach, intend
kṣha V be hard
ksud* V (h. tksad*) fear
kšim V enter
ktud V (p. ktid; n. ktid) remember
kudna B4 whenever
kulu Nc each, all
kulma Nb each one
kulši Nb everything, all
kun V (h. tkun) live, happen, be, exist
kuni Nb, m., pl. you
kuninti Nb, f., pl. you
kur* V (h. tkur*) be hard, become hard
kurai~akurai N, m. (pl. ikurain) stick
kutu: V comb, groom
kuz* Nc four

la P^1 no
labas nothing wrong
labuda: P^5 it is necessary
lagar N, m. (pl. lagarat) station, depot
lahl N, f. wife
lah P^5 there is
lak*raba A5 beside
lala: N, f. miss, madam
(used only with first name)
larub Nc three-fourths
la'afit N, f. fire
lbab N, m. (pl. lbiban) gate, door
lbakit N, m. (pl. lbakitat) package
lbanan N, m., coll. bananas
lbgar N, m. (pl. lbiguri) cattle
lbhar N, m. (pl. lbḥur*) sea
lbḥat N, m. investigation
lbigri N, m., coll. beef
lbit N, f. (pl. lbiut) room
lbitludu* wash room
lbni~llbni N, m., sg. and pl. building
lbrkuk* N, m., coll. plums
lbsis N, m. cereal
lbxur* N, m. incense
lbzar N, m., coll. pepper
lazm P^5 it is necessary
ldi V pull
lfakit N, m., coll. fruit, nuts
lfarḥ N, m. pleasure
lfdur* N, m. breakfast
lfilḥ N, m. success
lflukt N, m. (pl. lflaik) boat
lflus N, m. money
lgaru*~lgaru N, m., sg. and pl. cigarette
lgira: N, m. battle field
lguag V (h. tilguag) be soft, become softer (h.)
lgudam N, m. front
lgurnt N, f. (pl. lgurnat) slaughter house
lgarb N Morocco, west
lgnmi N, m., sg. and pl. lamb
lguat N, f. (pl. laguat) noise
lguš N deception, fraud
lhar: N, m. tickling
lhna: N, m. peace, rest
lḥad: N Sunday, limit, end

lḥal N, m. (pl. laḥaual) weather, atmosphere
lḥalua N, m. (pl. lḥaluat) cake
lḥamam N bath
lḥamil N, m. (pl. lḥmul) load
lḥana: N, m. henna
lḥams~lḥains N, m., coll. chickpeas
lḥarf N, m. (pl. lḥu*ruf*) letter of the alphabet
lḥažt N, f. (pl. lḥuaiž) thing, clothing (pl.)
lḥazimt N, f. (pl., m. lḥazum) bunch
lḥlib N, m. milk
lḥma N, m. heat
lḥmuat (pl.) excessive heat
lḥrir N, m. silk
lḥska N, f. (pl. lḥskat) lamp
lḥuš*~luḥuš* N, m. (pl. idluḥuš*) stable
li: Nb who (relative)
lig B4 when
liiali N, f. nights, winter
likskau N kuskus (a food)
limari N, f. (pl. limaraiat) mirror
litru N, m. (pl. litruat) litre
lka*hua N, m. coffee, cafe, bar gratuity
lkalb* N, m. heart
lkamun N, m. (pl. lkamunat) truck
lkard* N, m. measure used for grain, approximately one gallon
lkarit N, m. paper
lk*bilt N, m., pl. people, tribes
lk*lim N, m. (pl. lk*lum) pen
lkm V (h. tlkm) arrive, reach
lkra N, m. rent
lktab N, m. (pl. lktub) book
lktan N, m. cotton cloth
lkursi N, m. bench, chair
lku*uad N, m. pander (used in insults)
lmaida N, f. (pl. imiadi) table
lmakla N meals, food
lmaxzin N, m. government
lmdad N, m. ink
lmdint N, f. city
lmitru N, m. (pl. lmitruat) meter
lmkib N, m. bowl
lmnun~limnun N, m. melon
lmrkub N, m. fare
lmsiiaḥ N, m. clown, minstrel
lmuda N, f. occasion

lmugrib N Morocco
lmus N, m. knife
lm'alim N, m. engineer
ls V (p. lsa; n. lsi; h. tls) dress
ltnin N Monday
lubia N, m., coll. string beans
lu*du* N, m. hot water for washing before prayer, act of washing before prayer
luḥ V (h. tluaḥ) throw away, lay an egg
luḥr V throw out
lukan P^2 if...then
lukid* N, m. matches
lukil N, m. lawyer
lukt N, f. time, hour
lurak* N, m., pl. (sg. urak) leaves
lu*tal N, m. hotel
luuali N, m. (pl. luliia) prophet
lxamit N, f. (pl. lxamiiat) curtain
lxar N, m. material, goods
lxatr N, m. desire
lxmis N Thursday
lxul*uk* N, m. person
lxunšt N, f. bag
lzaub N, m. answer
lžam'a Friday
lždid N, m. (pl. lžuad) goodness
lžib N, m. (pl. lžiub) pocket
lžm'at N, m., sg. and pl. group
lžuuab N, m. answer
l'ab V (p. l'ab; n. l'ib; h. tl'ab) play (games, tricks)
l'abrt; N, m. a measure for grain equal to 4 lkard*
l'aid N, m. (pl. l'aiad) holiday
l'akl* N, m. (pl. l'aukul*) mind
l'alu N, m. height
l'am N, m. (pl. 'am) year
l'arba N Wednesday
l'ark* N, m. (pl. l'aruk*) vein, root
l'as N, m. hunger
l'askar N, m. (pl. l'askr) soldier
l'auaisir N, m. holiday season
l'ažib N, m. (pl. 'ažub) wonder, miracle

ma C what
nothing, anything (with negative)
mag V fight

maiuh N May
makar*~magr* V meet
makl* V meet, look
malḥ V (h. tmalḥ) be salty
man Nb who, what
manaku P4 when
mani P4 where
manik P4 how
mansa P5 where is, where are
marḥba P1 welcome
mars N March
matai P4 which one
matl V wait for a long time
matln V delay, be late, take a long time
matnit N good things
ma'ala~m'ala B4 if
ma'ana P4 why
ma'da P2 without, except
mbarak P1 happiness
mdi V reach, catch
mdl* V be buried
mgi V (h. tmgi) sprout, plant
mgur* V (h. tmgur*) grow bigger
mia Nc (pl. idmia) one hundred
midn N, m. people
mim V (h. timim) be sweet
mimsaḥ N evening
minbad P3 after
minšk P4 how much
mit Nb whose
mksai V tend sheep, cattle
mkur* V be large
mi V (p. mai; n. mii; h. mai) direct, conduct, show
miih P1 that's fine
miul V (h. tmiul) be white, grow whiter (h.)
mnau P4 how many
mrau Nc ten
mriam Miriam
msad V be very sharp
mskin N, m. (pl. msakin) poor fellow
mta V (p. mut; n. mut; h. mtat) die
mun V (h. muna) accompany
musai V (p. musai; n. musii; h. tmusui) move, tremble
mzi V (h. tmzi) be small, grow smaller

n- A3 (possessive prefix)
n- B5a we
-n B5a they
-n C there, that, then
nafl V (p. nufl; n. nufil; h. nufal) be crazy
anafal N, m. madman
namus N, m., sg. and pl. mosquito
na'am P1 yes
ndadana P3 last year
ndu V (p. nda; n. ndi; h. tndu) be wet
ngi V run, wander, rush
ng V (n. ngi; h. nka) kill
ngat A5 between
niŝn V (p. niŝan; n. niŝin; h. tuiŝan) be straight, be honest
nki Nb I
nkr V stand up
-nt B5a, f. they
nta Nb he
ntat Nb she
nua V (p. nua; n. nui; h. tnu) be ripe, cook
nukni Nb we
nuknti Nb we (f.)
nukurt* N silver
nus Nc one-half
nuua V (p. nuua; n. nuui; h. tnuua) wish
nuuambir N November
nz V (h. nza) be for sale
nžm V (h. nžam) escape
n'ala V curse
n'ana N mint

ra- B3 will, shall
rab'a Nc one-fourth
rar V return (tr.)
rastarant N, m. (pl. rastarantat) cafe, bar
rbh V (p. rbah; n. rbih; h. trbah) gain, earn, succeed
rb'a Nc four
rbi; N God
rbi'a N, m. grass
rdu* V (p. rda*; n. rdi*; h. trdu*) accept
rgig V tremble
rgm V (p. rgam; n. rgim; h. trgam) ridicule
rg V (p. rga; n. rgi; h. rka*:) become hot
ri V (p. ra; n. ri; h. tri) wish, want

rial N, m., coll. money, currency, dollars
riḥ V give off an odor
riḥi N, m. (pl. lariaḥ) wind
riḥt N, f. odor
riš N, m., pl. feathers
rk* V (p. rka*; n. rki*; h. trka*) dance
rmi V be tired
rtl* N, m (pl. rtal*) 1/2 kilo
ruah V let, permit
ruu V (p. rua; n. rui; h. truua) be beautiful
ruz* N, m., coll. rice
rz V (p. rz; n. irz; h. trz) break
rza N, f. (pl. rzu) turban
ržu V (p. rža; n. rži; h. trža) hope
r'ad V (h. tr'ad) thunder

s- A4 to, toward
sa; Nc seven
safr V sail
sa*fr V travel
sag~sg V (p. sag; n. sig; h. tsag) buy
sak*sa V ask
saif; N, m. summer
saht P[3] right
sa*ht N, f. health
samh V forgive
saruat V thresh
sat N, f. time, hour
saual V (p. sauul; n. sauuil; h. tsaual) speak
sbah N, m. morning
sbah P[3] tomorrow
s*bah V wake up
sba'in V make clear
sbg V paint
sbib~zbid V make stand
sbr V (p. sbr; n. sbir; h. s:bar) move slowly
sdis Nc six
sdrus~zdrus V reduce
sfar V be yellow
sfau V (p. sfau; n. sfai; h. tsfau) be bright
sfinž N, m. doughnuts
sfis: V calm, soothe, quiet
sfsi V melt (tr.)
sfud* V wipe, sweep
sgudi~zgudi V pile

shara N, m. (pl. sharI) desert
shdar V teach
shur* N breakfast before sunrise during the month of fasting
si- A4 with, by means of
sibt N Saturday
sidi P^1 (formal) sir, mister
si = familiar form
sigi V (h. tsigil) look for
simana N, m. (pl. simanat) week
simgi V plant
simus Nc five
sin Nc two
sin'at N, f. occupation, profession
sird V wash
sirs V place
sirur N, m. shine
skr V (p. skr; n. skir; h. kar) do
sksud* V (h. skead*) frighten
skus V (h. tskus) sit
sl V (p. sla; n. sli; h. sla:) hear
sli'at N, f. merchandise
slkm V take to a destination
sm N, m. poison
smah N, m. ink made from burnt wool
smak*l V look for
smid* V be cold
smun V collect
sn V (p. san; n. sin; h. san:) know, understand
sngi V turn on the water
sraf V (h. tsraf) spend
srbh V (p. srbaḥ; n. srbiḥ; h. sr:baḥ) reward
srdu* V cause to accept
srf N, m. change (money)
srir N, m. (pl. srar) bed
srẑm N, m. (pl. sraẑm) window
su V (p. sua; n. sui; h. sua:) drink
sudu V (p. suda; n. sudi; h. tsuda) ride (on a horse)
suf V blow
sufs V (h. sufus) spit
suguan V be black
sugul V cause to climb, boil (tr.)
suk* N, m. (pl. lasuak*) market
sukuar ~ sukuur* N, m. sugar
sul- B4 never, not yet
sus V (h. susa) shake (tr.)

šuua V cost
šxsar V spoil
š'adl V make good, repair

ša V (p. ša; n. ši h. šta) eat
šalada N lettuce
šatr V be wise
ša'ar N, m. hair
šbikt N, f. (pl. šbikat) net
šfr V (p. šfr; n. šfir; h. šfar) steal
šgl V (h. šgal) work, be busy
šhar N, m. moon, month
šib V age, become gray
šimandifir N, m. train
šk̲a* V (h. tšk̲a*) be hard, cruel, dangerous, difficult
šk̲al N, m. (pl. išk̲aln) hobble
šk̲r V thank
šk̲šm V take in
šlḥait N Shilḥa
šm'a N, m. candle
šrk V (p. šrk; n. širk; h. šarak) share
šul* N, m. job
šur V slow
šutambrir N September
šžurt N, f. (pl. šžari) tree

t- B5a she
t B5b him
t: B5b her
tabrat N, f. (pl. tibratin) letter, correspondence
tadwalt N, f. (pl. taduaiin) pot, inkwell
taf V have
tafirast N, f., coll. pear
tafukt N, f. sun
tafulust N, f. (pl. tifulusin) hen
tafunast N, f. (pl. tifunasin) cow
tafruxt N, f. (pl. tifrxan) girl
tagana N, f. sleep
tagant N, f. (pl. taganin) forest
tagdift N, f. (pl. tigdifin) carpet, mat
tagdurt N, f. (pl. tigdurin) large earthenware pot
taglait N, f. (pl. tiglai) egg
taglit: N, f. (pl. tiglatin) queen
tagunžauit N, f. (pl. tigunžauin) spoon
(from agunža ladle)
tagut N, f. fog

tagsif N, f. (pl. tigsaf) small palm tree
tagat*~tagati N, f. (pl. tigatn) goat
tagiult N, f. (pl. tigial) donkey
tagrut* N, f. (pl. tigurad*) shoulder
tahanut N, f. (pl. tihuna) store
taiuga N, f., sg. and pl. pair
taitmatin N, f., pl. sisters
taka* N, f. powder
takat N, f. (pl. takatin) family, fireplace
takfait N, f. milk
taksi N, m. (pl. taksiat) taxi
tak*sart N, f. (pl. tik*sarin) hill
tak*ta'at N, f. robbery
takurt* N, f. noise
ta*lib N, m. (pl. tilba) teacher
taluht N, f. (pl. tiluha) blackboard
talunt N, f. (pl. tilunin) strainer
tam Nc eight
taman N, m. (pl. tamanat) price
tamart N, f. (pl. timarin) beard
tamazirt N, f. (pl. timizar) countryside
tamdakult N, f. (pl. timdukal) friend
tamgart N, f. (pl. timgarin) woman, wife
tamubil N, f. (pl. tamubilat) bus (in rural areas)
tanut N, f. (pl. tiuna) small well
tanutfi N, f. (pl. tinutfa) cistern
tanšart N, f. carpentry
tarf A5 near
tarialt N, f., sg. dollar, bill
tarikt N, f. (pl. tarikin) saddle
taruans (see luis)
tas* V sleep
tasar:dunt N, f. (pl. tisar:dan) mule
taskaut N, f. (pl. tiskaa) pot
tasmi N, f. (pl. tasmiuin) needle
tasraft N, f. (pl. tisrafin) granary
tasrgult N, f. (pl. tisrgal) lid
ta*lhait Shilha
tasukt: N (pl. tisuka) street
taššbnit N, f. (pl. tiššbna) handkerchief
taškart N, f. (pl. tiškarin) small bag
tatbirt N, f. (pl. titbirin) dove
tatsa* N, f. laughing
tauarukt* N, f. (pl., m. luuarukt*) leaf
tauka N, f., sg. and pl. worm

taxdamt N, f. (pl. taxdim) cleaning woman
taxsait N, f. (pl. tixsai) squash
taxalit N, f. (pl. tizula) prayer
taxant N, f. (pl. taxanin) child
taxlaft N, f. (pl. taxlafin) bowl
tažbanit N, f. (pl. tažbanin) bowl
ta*žin N, f. (pl. t*uažin) frying pan
tažir ~ tažr N, m. (pl. tatažir) wealthy man, merchant
ta'am N, m. (pl. t'am) food, grain
ta'ma A5 near, beside
tbla N, f. (pl. tblat) table
tfaḥ N, f., coll. apples
tfar V follow, pursue
minžk aiitfart how much do you follow me = what do I owe you
tgalagal N, f. echo, one who talks too much
tgausai N, f. (pl. tgausi:din) thing
tiha V push
tibhart N, f. (pl. tibharin) garden
tidi N, f. (pl. tadiuin) height, height of a man (used as a unit of measure)
tifaut N, f. (pl. tifauin) light
tifii N, f. meat
tifliut N, f. (pl. tifliuin) door, gate
tigmi N, f. (pl. tigma) house
tigždit N, f. (pl. tigždin) small log, beam, rafter
tigri N, f. reading
tigzi N, f. length, height
tilara N, f. (pl. tilarat) airplane
tlini N, f., coll. dates
tili N, f. (pl. tatn) ewe
timkilt N, f. (pl. timkiltin) bowl, first dish served at a meal
timzgida N, f. (pl. timzgadiuin) mosque, school
tinglisf N, f. English (language)
tinuit N, f. cooking, food
tira N, f. printing
tirgi N, f. (pl. tirgiuin) fever, heat
tirkmin N, f., coll. turnips
tisnt N, f. salt
tišišt N, f. (pl. tišišn) tray
tit N, f. (pl., f. ain) eye
tiuutši N, f. (pl. tiuitšiuin) evening
tizuarnin N, f. midday prayer
tizuit N, f. (pl. tizua) bee
tižiuit N, f. (pl., m. iżauan) hurricane
tižluba N, f. robes

tak*bilt N, f. (pl. ik*bil) tribe
tklit N, f. (pl. tikal) time, occasion
tlata N Tuesday
tlbanant N, f. banana
tlž* N, m. snow
t-m B5a you (m., pl.)
t-mt B5a you (f., pl.)
tma* N greed
tmzin N, f. barley
tn B5b them (m.)
tnt B5b them (f.)
tnak*bit N, f. (pl. tinak*ba) hole
tniltit N, f., coll. lentils
tsa Nc nine
tsa* V (h. atsa*) laugh
t-t B5a you (sg.)
tub N, m. cloth
tubis N, m. (pl. tubisad) bus
tudit N, f. butter
turigza N, m. strong man, hero
tusu V cough
tusut N, f. cough
tur*žut* N, f. hope
tužut N, f. something good
tu*žut* N, f. stench

ua- A6 (vocative affix)
uala~uailla P^2 nor, neither, and not
ualakin P^2 but
ualu Nb nothing
uaxa P^1 yes, certainly, all right
udad N, m. (pl. udadn) antelope
udai N, m. (pl. udain) Jewish man
udm N, m. (pl. udman) face
uf: V (h. tuf:) blow, breathe
ufal: N, m. (pl. ufal:n) rake
ug V (p. uga; n. ugi; h. tuga) shine
ug V (p. ug; n. ig; h. tuga) wash
ug:d V (h. tugad:) be frightened
ugz V get down, get off
uhu P^1 no
ukan P^2 hardly, only
uktu*br N October
ula P^2 and
ultma N, f. (pl. taitmatn) my sister
(always used with possessive pronoun)

umlil N, m. whiteness
unsad N, m. weaving
ur- B4 not
urig V (p. urag; n. urig; h. tiurag) be green, be yellow
usmid* N cold
uš:n N, m. (pl. uša:min) wolf, jackal
ut V (h. tkat) strike, hit
utaš V (h. tutaš) kneel
uuri V return (intr.)
uxs N, m. (pl. uxsn) tooth
uxšn V (p. uxšan; n. uxšin; h. tuxšn) be disagreeable
uzn V (p. uzn; n. uzin; h. tuzan) weigh
uzr V sink, go down
užad V (p. užd; n. užid; h. tužad) prepare

xa V leave
xalas: V (p. xulus:; n. xulis:; h. txalas:) pay for
xalat: V (p. xulut:; n. xulit:; h. txalat:) mix, mingle
xali N, m. (pl. idxali) maternal uncle
xalti N, f. (pl. idxalti) maternal aunt
xamim V (h. txamam) consider
xamsin Nc fifty
xatr N, m. wish, pleasure, desire
xa:zu N, m., coll. carrots
xdm V (p. xdam; n. xdim; h. txdam) work
xsr V (p. xsar; n. xsir; h. txsar) spoil, rot
xsu:~xsu*: V (p. xsa; n. xsi; h. txsa) be missing, be lacking
xta Nb, f. the one
xtaian Nb, m. no one
xtali: Nb, f. she who
xuu V (p. xua; n. xui; h. txua) be empty, deserted

zdag V (n. zdig) live, reside
zdar V (p. zdar; n. zdir; h. dzdar) be able, can
zdu V (p. zda; n. zdi; h. zda:) grind
zgr V (p. zgar; n. zgir; h. dzgar) cause to touch, pass by, walk on
zgur V (h. zugur) smear
zift N, m. tar, pitch
zigz V (h. zigiz) walk
zigziu V (p. zigzau; n. sigziu; h. zigzau) be green
zik P[3] early
zit N, m. oil
zitun N, f., pl. objects
zlg V (p. zlg; n. zlig; h. dzlag) slip
zlzlt N, f. earthquake

zlm V (p. zlm; n. zlim; h. dzlim) peel, pare
zns V (p. znsa; n. znsi; h. zinsa) sell
zr* V (p. zra*; n. zri; h. zra*:) see
zrb V (p. zrb; n. zirb; h. dzrab) hurry, hasten
zri V (p. zra; n. zri; h. zrai) pass by
zri: V (p. zra:; n. zri:; h. zrai:) cause to pass, pass with
zug V (h. tzug) milk
zuguig V (p. zuguag; n. zuguig; h. tzuig) be red, become red (h.)
zugs V (h. zuguz) bring down
zund P^2 like, as
zur V be thick
zuur V (p. zuar; n. zuir; h. zuir) precede, guide
izuarn the first

Ża* V stink
Żarḥt N, f. (pl. Żarḥat) injury
Żaru V (p. Żuru; n. Żuri; h. dŻura) pull, drag
Żaub V answer
Żbib V (h. dŻbab) pull, extract
Żda N, f. (pl. idŻda) grandmother
Żha N, m. man's name (used in many folk stories)
Żi V be well, strong, fat, rich
ŻiŻi V cure
Żibana N, m., coll. green peas
Żma'u V (p. Żma'a; n. Żma'i; h. dŻma') congregate, gather, collect
ŻnŻm V (p. ŻnŻm; n. ŻnŻim; h. ŻnŻam) save, rescue
Żrḥ V (p. Żrḥ; n. Żirḥ; h. dŻarḥ) injure
Żru V (p. Żra; n. Żri; h. dŻra) take place, happen
Żu B4 never
Żua' N, m. hunger
Żużad: V prepare

'abr V weigh
'adl V be good
'adl: V (h. t'adl:) improve
'afak P^1 please
'afu V (p. 'afa; n. 'afi; h. t'afa) forgive
'alaḥ P^4 why
'aluš N, m. (pl. i'alaš) calf
(also a'aluš)
'alu V (p. 'ala; n. 'ali; h. t'alu) be high, become higher (h.)
'am N, m. year
'ami N, m. (pl. id'ami) my uncle (paternal)
'amr V (p. 'amr ~ 'amar; n. 'amir; h. 'amar:) fill, become full
'amti N, f. (pl. id'amti) my aunt (paternal)
'amu V (p. 'ama; n. 'ami; h. t'amu) be blind

ʿanʿa N, m. mint
ʿard V (h. ʿarad) invite
ʿašrin Nc twenty
ʿatar N, m. (pl. iʿatarn) medicine man, druggist
ʿauud V (h. tʿauud) repeat, recite
ʿauun V (h. ʿauah) help
ʿauž V (h. ʿauaž) be crooked
ʿažub V (h. ʿažab) be pleasant, be wonderful
(with negative be unhappy, disturbed)